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STRUCTURE FILE UPDATES: 22 JAN 2012 HIGHEST RN 1353846-69-1
 DICTIONARY FILE UPDATES: 22 JAN 2012 HIGHEST RN 1353846-69-1

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=> d que 129
L5          2 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  NI2SI/MF
L7          1085 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L5
L10         143853 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ANNEALING+PFT,NT/C
              T
L11         34829 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  "ROLLING (METALS) "
              +PFT,NT/CT
L20         80304 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  (CU(L)NI(L)SI)/EL
              S
L21         63949 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L20 AND (MG OR
              SN OR ZN OR AG OR CR)/ELS
L23         109669 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L21
L24         44 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L23 AND L7
L25         6 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L24 AND (L10 OR
              L11)
L26         31 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L24 AND PROC/RL
L27         44 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L24 OR L25 OR
              L26)
L28         39 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L27 AND (1802-2007
              )/PRY,AY,PY
L29         39 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L28 AND ALLOY?/SC,
              SX
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=> fil hcap
 FILE 'HCAPLUS' ENTERED AT 14:32:52 ON 23 JAN 2012
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FILE COVERS 1907 - 23 Jan 2012 VOL 156 ISS 5
 FILE LAST UPDATED: 22 Jan 2012 (20120122/ED)
 REVISED CLASS FIELDS (/NCL) LAST RELOADED: Oct 2011
 USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Oct 2011

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2011.

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d 129 1-39 ibib ed abs hitstr hitind

L29 ANSWER 1 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 2007:1067126 HCAPLUS Full-text
 DOCUMENT NUMBER: 148:83447
 TITLE: A new high performance copper based alloy for
 electro-mechanical connectors
 AUTHOR(S): Kuhn, H.-A.; Kaeufler, A.; Ringhand, D.; Theobald,
 S.
 CORPORATE SOURCE: Metal Division, Product Technology Department,
 Wieland-Werke AG, Ulm, D-89079, Germany
 SOURCE: Materialwissenschaft und Werkstofftechnik
 (2007), 38(8), 624-634
 CODEN: MATWER; ISSN: 0933-5137
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal
 LANGUAGE: English

ED Entered STN: 24 Sep 2007

AB The pptn. hardened high-copper alloy CuNi1Co1Si (UNS design. C70350) was developed in two tempers in a high strength spring material for small connector devices. The combination of high strength, moderate cond., excellent thermal stability and good formability is explained by the microstructure of the strip material. In comparison to the nickel silicide hardened connector material CuNi3Si (C70250) the cobalt contg. mixed silicides improve significantly strength. The weak anisotropy of the spring characteristics is explained by a process-dependent texture. The good formability is calcd. by FEM and proven by standardized bend test, as well as by manufg. a demonstration part which is similar to a connector.

IT 12059-14-2, Nickel silicide (Ni₂Si)
 (new high performance copper based alloy for electro-mech.
 connectors)
 RN 12059-14-2 HCAPLUS
 CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 129847-71-8, C70250 960202-99-7, Copper 94-98,
 magnesium 0.1-0.3, nickel 2.2-4.2, silicon 0.3-1.2
 (new high performance copper based alloy for electro-mech.
 connectors)
 RN 129847-71-8 HCAPLUS
 CN Copper alloy, base, Cu 93-98, Ni 2.2-4.2, Si 0.25-1.2, Zn 0-1.0, Mg
 0.05-0.30, Fe 0-0.20, Mn 0-0.10, Pb 0-0.05 (UNS C70250) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	93 - 98	7440-50-8
Ni	2.2 - 4.2	7440-02-0
Si	0.25 - 1.2	7440-21-3
Zn	0 - 1.0	7440-66-6
Mg	0.05 - 0.30	7439-95-4
Fe	0 - 0.20	7439-89-6
Mn	0 - 0.10	7439-96-5
Pb	0 - 0.05	7439-92-1

RN 960202-99-7 HCAPLUS
 CN Copper alloy, base, Cu 94-98, Ni 2.2-4.2, Si 0.3-1.2, Mg 0.1-0.3 (CA
 INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94 - 98	7440-50-8
Ni	2.2 - 4.2	7440-02-0
Si	0.3 - 1.2	7440-21-3
Mg	0.1 - 0.3	7439-95-4

CC 56-12 (Nonferrous Metals and Alloys)

IT 7440-50-8, Copper, properties 12059-14-2, Nickel silicide
 (Ni₂Si) 12134-03-1, Cobalt silicide (Co₂Si)
 (new high performance copper based alloy for electro-mech.
 connectors)

IT 129847-71-8, C70250 960202-98-6, Cobalt 1-2, copper 95-98,
 nickel 1-2, silicon 0.5-1 960202-99-7, Copper 94-98,
 magnesium 0.1-0.3, nickel 2.2-4.2, silicon 0.3-1.2
 (new high performance copper based alloy for electro-mech.
 connectors)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)
 REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L29 ANSWER 2 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2007:533755 HCAPLUS Full-text
 DOCUMENT NUMBER: 146:505247
 TITLE: High-strength copper-nickel-silicon alloy with
 good shearing property, and its manufacture
 INVENTOR(S): Yamamoto, Yoshinori; Takano, Hiroaki; Tong,
 Chinping; Nomura, Katsumi
 PATENT ASSIGNEE(S): Hitachi Cable, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007119845	A	20070517	JP 2005-313297	20051027
			<--	
JP 4556842	B2	20101006		
PRIORITY APPLN. INFO.:			JP 2005-313297	20051027
			<--	

ED Entered STN: 18 May 2007

AB The Cu alloy article contains Ni 1.0-5.0, Si 0.2-1.0, and optionally Zn and/or Sn
 total .ltoreq.5.0 wt.% and has Ni₂Si ppt. distribution obsd. at cross-section
 vertical to rolling direction to satisfy a/b .gtoreq.2 [a and b are d. as no./mm²
 of 0.03-3 .mu.m-size Ni₂Si ppts. in surface layers within 20%-thickness from top
 surface for both sides and in the inner layer excluding the surface layers, resp.].
 The Cu alloy article is manufd. by forming a Cu alloy preform having the above
 compn., heating the preform at 700-900.degree., cooling at rate
 .gtoreq.25.degree./min to .ltoreq.300.degree., repeat-rolling at single pass
 draft .ltoreq.5% to total draft .gtoreq.10%, heating at 300-450.degree. for 5 min
 to 5 h, and heating at 450-600.degree. for 5 min to 5 h. The article has high mech.
 strength, elec. cond., and spring performance and is suitable for terminals,
 connectors, lead frames, etc.

IT 936090-24-3 936090-25-4
 (high-strength Cu-Ni-Si alloy article with good shearing property
 and its manuf. by controlled heat treatment and rolling)
 RN 936090-24-3 HCAPLUS
 CN Copper alloy, base, Cu 94,Ni 3,Zn 1.5,Si 0.7,Sn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8
Ni	3	7440-02-0
Zn	1.5	7440-66-6
Si	0.7	7440-21-3
Sn	0.3	7440-31-5

RN 936090-25-4 HCAPLUS
 CN Copper alloy, base, Cu 84-99,Ni 1-5,Sn 0-5,Zn 0-5,Si 0.2-1 (CA INDEX
 NAME)

Component	Component Percent	Component Registry Number

Cu	84	-	99	7440-50-8
Ni	1	-	5	7440-02-0
Sn	0	-	5	7440-31-5
Zn	0	-	5	7440-66-6
Si	0.2	-	1	7440-21-3

IT 12059-14-2, Nickel silicide (Ni₂Si)
 (ppt. in alloy, controlled distribution of; high-strength Cu-Ni-Si alloy article with good shearing property and its manuf. by controlled heat treatment and rolling)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IPCI C22C0009-06 [I,A]; C22F0001-08 [I,A]; C22C0009-02 [I,A]; C22C0009-04 [I,A]; B21B0003-00 [I,A]; B21B0001-22 [I,A]; H01H0001-025 [I,A]; H01H0001-04 [I,A]; C22F0001-00 [N,A]; C22C0009-06 [I,A]; C22C0009-02 [I,A]; C22C0009-04 [I,A]; C22C0009-10 [I,A]; C22F0001-08 [I,A]; B21B0003-00 [I,A]; B21B0001-22 [I,A]; H01H0001-025 [I,A]; H01H0001-04 [I,A]; C22F0001-00 [N,A]; H01B0001-02 [N,A]

IPCR C22C0009-06 [I,A]; B21B0001-22 [I,A]; B21B0003-00 [I,A]; C22C0009-02 [I,A]; C22C0009-04 [I,A]; C22F0001-00 [N,A]; C22F0001-08 [I,A]; H01H0001-025 [I,A]; H01H0001-04 [I,A]; C22C0009-10 [I,A]; H01B0001-02 [N,A]

CC 56-3 (Nonferrous Metals and Alloys)

IT Cold rolling
 (high-strength Cu-Ni-Si alloy article with good shearing property and its manuf. by controlled heat treatment and rolling)

IT Rolling (metals)
 (hot; high-strength Cu-Ni-Si alloy article with good shearing property and its manuf. by controlled heat treatment and rolling)

IT 134181-45-6 936090-24-3 936090-25-4
 (high-strength Cu-Ni-Si alloy article with good shearing property and its manuf. by controlled heat treatment and rolling)

IT 12059-14-2, Nickel silicide (Ni₂Si)
 (ppt. in alloy, controlled distribution of; high-strength Cu-Ni-Si alloy article with good shearing property and its manuf. by controlled heat treatment and rolling)

L29 ANSWER 3 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2007:532744 HCAPLUS Full-text

DOCUMENT NUMBER: 146:505246

TITLE: High-strength copper-nickel-silicon alloy article with good bending property, and its manufacture

INVENTOR(S): Yamamoto, Yoshinori; Takano, Hiroaki; Dong, Qing-Ping; Nomura, Katsumi

PATENT ASSIGNEE(S): Hitachi Cable, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 12pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2007119844 A 20070517 JP 2005-313296 20051027
 <--

ED Entered STN: 17 May 2007

IT 936090-24-3 936090-25-4

RN 936090-24-3 HCAPLUS

CN Copper alloy, base, Cu 94,Ni 3,Zn 1.5,Si 0.7,Sn 0.3 (CA INDEX NAME)

RN 936090-25-4 HCAPLUS

CN Copper alloy, base, Cu 84-99, Ni 1-5, Sn 0-5, Zn 0-5, Si 0.2-1 (CA INDEX NAME)

IT 12059-14-2, Nickel silicide (Ni₂Si)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

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IPCI C22C0009-06 [I,A]; C22C0009-10 [I,A]; C22F0001-08 [I,A]; C22C0009-02
[I,A]; C22C0009-04 [I,A]; C22F0001-00 [N,A]; H01B0001-02 [N,A];
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C22C0009-06 [I,A]; C22C0009-02 [I,A]; C22C0009-04 [I,A]; C22C0009-10 [I,A]; C22F0001-08 [I,A]; C22F0001-00 [N,A]; H01B0001-02 [N,A]
 IPCR C22C0009-06 [I,A]; C22C0009-02 [I,A]; C22C0009-04 [I,A]; C22C0009-10 [I,A]; C22F0001-00 [N,A]; C22F0001-08 [I,A]; H01B0001-02 [N,A]
 CC 56-3 (Nonferrous Metals and Alloys)
 IT Cold rolling
 (high-strength Cu-Ni-Si alloy article with good bending property and its manuf. by controlled heat treatment and rolling)
 IT Rolling (metals)
 (hot; high-strength Cu-Ni-Si alloy article with good bending property and its manuf. by controlled heat treatment and rolling)
 IT 134181-45-6 936090-24-3 936090-25-4
 (high-strength Cu-Ni-Si alloy article with good bending property and its manuf. by controlled heat treatment and rolling)
 IT 12059-14-2, Nickel silicide (Ni₂Si)
 (ppt. in alloy, controlled distribution of; high-strength Cu-Ni-Si alloy article with good bending property and its manuf. by controlled heat treatment and rolling)

L29 ANSWER 4 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 2007:215972 HCAPLUS Full-text
 DOCUMENT NUMBER: 147:389997
 TITLE: Analysis of precipitating behavior of strengthening phase in Cu-3.2Ni-0.75Si-0.30Zn alloy
 AUTHOR(S): Wang, Dongfeng; Wang, Dingjiang; Pan, Qingjun; Kang, Buxi; Liu, Ping
 CORPORATE SOURCE: Second Department, The First Aeronautic Institute of Air Force, Xinyang, 464000, Peop. Rep. China
 SOURCE: Jinshu Rechuli (2006), 31(1), 43-45
 CODEN: JRECDB; ISSN: 0254-6051
 PUBLISHER: Jinshu Rechuli Bianjibu
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese

ED Entered STN: 28 Feb 2007
 AB The pptn. mechanism of strengthening phase in super-satd. solid soln. of Cu-3.2Ni-0.75Si-0.30Zn alloy during aging was studied with microstructure, microhardness and elec. cond. The results show that in the early aging (at 250-450.degree.C), super- satd. solid soln. will transformed by means of spinodal decompn. As a result, the solute atoms-poor region and rich region are formed. With the prolongation of aging time, the ordering appearance in solute atoms-rich region, and with matrix semi-coherent the strengthening phase is formed. If aging continues, and the strengthening phase is pptg. and growing, the semi-coherent relation will be destroyed. In the end, under action of surface tension, strengthening phase will be spheroidized. Meanwhile, the increasing tendency of elec. cond. and microhardness is slowed.
 IT 12059-14-2, Dinickel silicide
 (anal. of pptg. behavior of strengthening phase in Cu-3.2Ni-0.75Si-0.30Zn alloy)
 RN 12059-14-2 HCAPLUS
 CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 151511-92-1
 (anal. of pptg. behavior of strengthening phase in Cu-3.2Ni-0.75Si-0.30Zn alloy)

RN 151511-92-1 HCAPLUS
 CN Copper alloy, base, Cu 96,Ni 3.2,Si 0.8,Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3.2	7440-02-0
Si	0.8	7440-21-3
Zn	0.3	7440-66-6

CC 56-10 (Nonferrous Metals and Alloys)
 IT Aging, materials
 Annealing
 Electric conductivity
 Microhardness
 Spinodal decomposition
 (anal. of pptg. behavior of strengthening phase in
 Cu-3.2Ni-0.75Si-0.30Zn alloy)
 IT 12059-14-2, Dinickel silicide
 (anal. of pptg. behavior of strengthening phase in
 Cu-3.2Ni-0.75Si-0.30Zn alloy)
 IT 151511-92-1
 (anal. of pptg. behavior of strengthening phase in
 Cu-3.2Ni-0.75Si-0.30Zn alloy)

L29 ANSWER 5 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 2006:1129246 HCAPLUS Full-text
 DOCUMENT NUMBER: 145:458889
 TITLE: Preparation of .beta. phase-based brass tube with
 high strength and abrasion resistance
 INVENTOR(S): Li, Honglei; Yu, Xiaogang; Huang, Zixin; Guo,
 Sumei; Wang, Tao; Huang, Yafei; Miao, Guowei; Guo,
 Huiwen; Zhang, Yan
 PATENT ASSIGNEE(S): Luoyang Copper Group Co., Ltd., Peop. Rep. China
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9pp.
 CODEN: CNXXEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1710127	A	20051221	CN 2005-10080322	20050704
			<--	
CN 100449018	C	20090107		
PRIORITY APPLN. INFO.:			CN 2005-10080322	20050704
			<--	

ED Entered STN: 30 Oct 2006

AB The title brass tube is prepd. by smelting multi-component alloy (based on Cu-Zn alloy and including alloy elements of Fe, Ni, Mn, Co, Si, Al, and Cr), casting at 1300-1400.degree.C under 0.02-0.1 MPa at a speed of 1.5-4.5 m/h, heating, extruding at 500-800.degree.C with a max. deformation degree above 95%, cooling, hot-straightening, tempering at 300-350.degree.C for 1-2 h, and sawing. The obtained brass tube has uniform abrasion-resistant phases (such as FeAl3, Mn5Si3,

Ni₂Si, etc.), high strength and abrasion resistance, and can be used for automobile synchronizer gear ring.

IT 12059-14-2P, Nickel silicide (Ni₂Si) 913176-38-2P
913176-39-3P

(prepn. of .beta. phase-based brass tube with high strength and abrasion resistance)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 913176-38-2 HCAPLUS

CN Copper alloy, base, Cu 60,Zn 34,Mn 2.5,Al 2,Si 0.8,Ni 0.3,Cr 0.2 (9CI)
(CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	60	7440-50-8
Zn	34	7440-66-6
Mn	2.5	7439-96-5
Al	2	7429-90-5
Si	0.8	7440-21-3
Ni	0.3	7440-02-0
Cr	0.2	7440-47-3

RN 913176-39-3 HCAPLUS

CN Copper alloy, base, Cu 63,Zn 27,Al 3.5,Ni 3,Co 1.5,Si 0.8,Mn 0.6,Fe 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	63	7440-50-8
Zn	27	7440-66-6
Al	3.5	7429-90-5
Ni	3	7440-02-0
Co	1.5	7440-48-4
Si	0.8	7440-21-3
Mn	0.6	7439-96-5
Fe	0.5	7439-89-6

IPCI C22C0009-04 [I,C]; C22C0009-04 [I,A]; B21C0023-02 [I,C]; B21C0023-08 [I,A]; B21D0003-00 [I,C]; B21D0003-00 [I,A]; B22D0007-00 [I,C]; B22D0007-00 [I,A]; C22C0001-02 [I,C]; C22C0001-02 [I,A]; C22F0001-08 [I,C]; C22F0001-08 [I,A]

IPCR C22C0009-04 [I,A]; B21C0023-08 [I,A]; B21D0003-00 [I,A]; B22D0007-00 [I,A]; C22C0001-02 [I,A]; C22F0001-08 [I,A]

CC 56-12 (Nonferrous Metals and Alloys)

IT 12004-62-5P 12018-08-5P, Chromium silicide (CrSi) 12023-54-0P,
Iron silicide (Fe₃Si) 12033-10-2P, Manganese silicide (Mn₅Si₃)
12035-60-8P 12059-14-2P, Nickel silicide (Ni₂Si)
12134-03-1P, Cobalt silicide (Co₂Si) 913176-38-2P
913176-39-3P

(prepn. of .beta. phase-based brass tube with high strength and abrasion resistance)

L29 ANSWER 6 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 2006:1125550 HCAPLUS Full-text
 DOCUMENT NUMBER: 146:485211
 TITLE: Effects of Ni and Si contents on the precipitation
 behavior of Cu-Ni-Si alloys
 AUTHOR(S): Kano, Hirokazu; Sato, Tatsuo; Hirose, Kiyoshige;
 Eguchi, Tatsuhiko
 CORPORATE SOURCE: Graduate School of Science and Engineering, Tokyo
 Institute of Technology, Japan
 SOURCE: Do to Dogokin (2006), 45, 115-119
 CODEN: DDOOAW; ISSN: 1347-7234
 PUBLISHER: Do oyobi Dogokin Gijutsu Kenkyukai
 DOCUMENT TYPE: Journal
 LANGUAGE: Japanese

ED Entered STN: 27 Oct 2006

AB The age-hardening, elec. cond. change, pptn. microstructures and grain growth of Cu-2.19%Ni-0.52%Si (in mass%) alloy (Alloy A) and Cu-3.71%Ni-0.87%Si alloy (Alloy B) were studied at various aging conditions. The optimum temp. for the soln. treatment is .apprx.1048 K for Alloy A and 1123-1148 K for Alloy B by taking into consideration of both the soly. of solute elements and grain coarsening. Age-hardenability was highly improved by increasing the amt. of Ni and Si and both the tensile strength and yield strength increased by 100 MPa, although elec. cond. decreased by 5% IACS at peak aging. The improvement of age-hardenability of Alloy B is due to the finer and higher d. pptn. of the Ni₂Si phase distributed homogeneously than in Alloy A. The DSC curves indicate that the two pptn. reactions occur. The electron diffraction patterns show that the two phases of Ni₂Si and Ni₃Si are basically formed in Alloy B. In alloy A, the phase of Ni₂Si is predominantly formed. Three dimensional atom probe (3DAP) anal. was performed to examine the compn. of ppts. The compn. of the ppts. is Ni : Si : Cu = 46 : 31 : 22 in the beginning of aging and Ni : Si = 2 : 1 with almost no Cu in the peak aging condition. The vol. fraction of the ppt. (Ni₂Si) was estd. based on the elec. cond. change.

IT 12059-14-2, Nickel silicide (Ni₂Si)
 (effects of Ni and Si contents on pptn. behavior of Cu-Ni-Si
 alloys)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 909402-61-5 935853-73-9
 (effects of Ni and Si contents on pptn. behavior of Cu-Ni-Si
 alloys)

RN 909402-61-5 HCAPLUS

CN Copper alloy, base, Cu 95,Ni 3.7,Si 0.9,Zn 0.5,Sn 0.2,Mg 0.1 (CA
 INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.7	7440-02-0
Si	0.9	7440-21-3
Zn	0.5	7440-66-6
Sn	0.2	7440-31-5
Mg	0.1	7439-95-4

RN 935853-73-9 HCAPLUS

CN Copper alloy, base, Cu 97,Ni 2.2,Si 0.5,Zn 0.5,Mg 0.1,Sn 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2.2	7440-02-0
Si	0.5	7440-21-3
Zn	0.5	7440-66-6
Mg	0.1	7439-95-4
Sn	0.1	7440-31-5

CC 56-5 (Nonferrous Metals and Alloys)

IT 12059-14-2, Nickel silicide (Ni₂Si)
(effects of Ni and Si contents on pptn. behavior of Cu-Ni-Si alloys)

IT 909402-61-5 935853-73-9
(effects of Ni and Si contents on pptn. behavior of Cu-Ni-Si alloys)

L29 ANSWER 7 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2006:1121139 HCAPLUS Full-text

DOCUMENT NUMBER: 147:56232

TITLE: Cast Cu-Ni-Si-Cr-Zr copper alloy: manufacture, structure and application

AUTHOR(S): Mikuszevski, Tomasz

CORPORATE SOURCE: Katedrra Technol. Stopow Met. Komozytow, Politech. Slaska, Katowice, Pol.

SOURCE: Rudy i Metale Niezelazne (2006), 51(6), 333-338

CODEN: RMNZA5; ISSN: 0035-9696

PUBLISHER: Wydawnictwo SIGMA-NOT

DOCUMENT TYPE: Journal

LANGUAGE: Polish

ED Entered STN: 27 Oct 2006

AB The chem. compn. of cast Cu-Ni-Si-Cr-Zr alloy and the role of the alloying addns. were presented. The technol. aspects of manufg. that alloy were discussed in detail. The influences of the melting atm., time, and temp., the crucible type, and the form of charge materials on the structure of the alloy studied were examd. The effect of main casting parameters, i.e. temp. and cooling rate in the casting mold, on the alloy primary structure was also analyzed. Heat treatment conditions and their influence on the alloy secondary structure as well as its hardened phases were detd. Examples of the application of the Cu-Ni-Si-Cr-Zr alloy for casting of fixtures for resistance welding were given.

IT 12059-14-2, Nickel silicide (Ni₂Si)
(manuf., structure and application of cast Cu-Ni-Si-Cr-Zr copper alloy)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 940296-24-2F
(manuf., structure and application of cast Cu-Ni-Si-Cr-Zr copper alloy)

RN 940296-24-2 HCAPLUS

CN Copper alloy, base, Cu 94-96,Ni 2.8-3.4,Cr 0.9-1.3,Si 0.8-1.2,Zr 0-0.1

(CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Cu	94 - 96	7440-50-8
Ni	2.8 - 3.4	7440-02-0
Cr	0.9 - 1.3	7440-47-3
Si	0.8 - 1.2	7440-21-3
Zr	0 - 0.1	7440-67-7

CC 56-3 (Nonferrous Metals and Alloys)

IT 12018-36-9, Chromium silicide (Cr₃Si) 12059-14-2, Nickel
silicide (Ni₂Si) 37308-28-4, Chromium nickel silicide (Cr₆Ni₁₆Si₇)
61232-36-8, Chromium nickel silicide 66590-84-9, Chromium nickel
silicide (Cr₁₃Ni₅Si₂)

(manuf., structure and application of cast Cu-Ni-Si-Cr-Zr copper
alloy)

IT 940296-24-2P

(manuf., structure and application of cast Cu-Ni-Si-Cr-Zr copper
alloy)

L29 ANSWER 8 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2006:361678 HCAPLUS Full-text

DOCUMENT NUMBER: 145:381353

TITLE: Rolling contact damage accumulation in two
contrasting copper alloys

AUTHOR(S): Medina, Simon; Olver, Andrew V.; Shollock, Barbara
A.

CORPORATE SOURCE: Department of Mechanical Engineering, Imperial
College, London, SW7 2AZ, UK

SOURCE: Wear (2006), 260(7-8), 794-802
CODEN: WEARAH; ISSN: 0043-1648

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 20 Apr 2006

AB Rolling contact tests were carried out on two Cu alloys with contrasting post-yield
properties. The progression of damage was investigated using scanning and
transmission electron microscopy. A phosphor bronze alloy showed isotropic
hardening and shakedown. In contrast, a pptn.-hardened CuNiSi alloy showed
kinematic hardening and ratchetting behavior and had poor resistance to cracking
despite having a higher initial yield stress. The damage was found to be assocd.
with slip band formation and rapid dissoln. of the Ni₂Si ppt. The results are
consistent with the findings of earlier investigators on the relationship between
wear, fatigue and ratchetting in rolling contact and provide a microstructural
explanation for the present system. There is a close parallel with classical
fatigue in other pptn.-hardened alloy systems.

IT 39332-81-5

(rolling contact damage accumulation in two copper alloys, i.e
phosphor bronze alloy and pptn.-hardened CuNiSi alloy, with
contrasting post-yield properties)

RN 39332-81-5 HCAPLUS

CN Copper alloy, base, Cu 85.0-89.0, Sn 11.0-13.0, Ni 0-0.50, P 0-0.30, Pb
0-0.25, Zn 0-0.25, Sb 0-0.20, Fe 0-0.15, S 0-0.05, Al 0-0.005, Si 0-0.005
(UNS C90800) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	85.0 - 89.0	7440-50-8
Sn	11.0 - 13.0	7440-31-5
Ni	0 - 0.50	7440-02-0
P	0 - 0.30	7723-14-0
Pb	0 - 0.25	7439-92-1
Zn	0 - 0.25	7440-66-6
Sb	0 - 0.20	7440-36-0
Fe	0 - 0.15	7439-89-6
S	0 - 0.05	7704-34-9
Al	0 - 0.005	7429-90-5
Si	0 - 0.005	7440-21-3

IT 12059-14-2, Nickel silicide (Ni₂Si)
 (rolling contact damage accumulation in two copper alloys, i.e
 phosphor bronze alloy and pptn.-hardened CuNiSi alloy, with
 contrasting post-yield properties and dissoln. of)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 56-12 (Nonferrous Metals and Alloys)

IT Fatigue, mechanical

Microhardness

Microstructure

Plastic deformation

Rolling (metals)

Slip bands

Stress-strain relationship

(rolling contact damage accumulation in two copper alloys, i.e
 phosphor bronze alloy and pptn.-hardened CuNiSi alloy, with
 contrasting post-yield properties)

IT 39332-81-5 848651-06-9

(rolling contact damage accumulation in two copper alloys, i.e
 phosphor bronze alloy and pptn.-hardened CuNiSi alloy, with
 contrasting post-yield properties)

IT 12059-14-2, Nickel silicide (Ni₂Si)

(rolling contact damage accumulation in two copper alloys, i.e
 phosphor bronze alloy and pptn.-hardened CuNiSi alloy, with
 contrasting post-yield properties and dissoln. of)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L29 ANSWER 9 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2005:810409 HCAPLUS Full-text

DOCUMENT NUMBER: 144:395765

TITLE: Microstructure and mechanical properties of
 Cu-Ni-Si alloys

AUTHOR(S): Watanabe, Chihiro; Hiraide, Hiroaki; Zhang,
 Zuogui; Monzen, Ryoichi

CORPORATE SOURCE: Graduate School of Natural Sci., Kanazawa Univ.,
Kodatsuno, Kanazawa, 920-8667, Japan

SOURCE: Zairyo (2005), 54(7), 717-723
CODEN: ZARYAQ; ISSN: 0514-5163

PUBLISHER: Nippon Zairyo Gakkai

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

ED Entered STN: 18 Aug 2005

AB The microstructure and mech. properties of thermomech. treated
Cu-2.0mass%Ni-0.5mass%Si alloys with and without 0.1mass%Mg were investigated.
The Mg addn. increases the formation rate of disk-shaped Ni₂Si particles. The Mg
addn. produces higher strength and resistance to stress relaxation. The
improvement of strength or stress relaxation resistance is caused by the decrease
in interparticle spacing by the Mg addn. or by the Mg-atom-drag effect on
dislocation motion. The stress relaxation resistance for the Cu-Ni-Si alloy with
a large grain size of 150 .mu.m is higher than that for the alloy with a small grain
size of 10 .mu.m because the d. of mobile dislocations in the former alloy is lower.
The effect of equal channel angular pressing (ECAP) and subsequent heat treatment
on the mech. properties of the Cu-Ni-Si alloy was studied also. The heat-treated
ECAP alloy shows larger values of 0.2% proof stress and ultimate tensile stress
and a slightly smaller value of elongation to failure compared with the thermomech.
treated Cu-Ni-Si alloy.

IT 12059-14-2, Nickel silicide (Ni₂Si)
(microstructure and mech. properties of thermomech. treated Cu-2
wt.% Ni- 0.5 wt.% Si alloys with and without 0.1 wt.% Mg and effect
of equal channel angular pressing and subsequent heat treatment)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 856008-39-4, Copper 97, magnesium 0.1, nickel 2, silicon 0.5
(microstructure and mech. properties of thermomech. treated Cu-2
wt.% Ni- 0.5 wt.% Si alloys with and without 0.1 wt.% Mg and effect
of equal channel angular pressing and subsequent heat treatment)

RN 856008-39-4 HCAPLUS

CN Copper alloy, base, Cu 97, Ni 2, Si 0.5, Mg 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2	7440-02-0
Si	0.5	7440-21-3
Mg	0.1	7439-95-4

CC 56-12 (Nonferrous Metals and Alloys)

IT 12059-14-2, Nickel silicide (Ni₂Si)
(microstructure and mech. properties of thermomech. treated Cu-2
wt.% Ni- 0.5 wt.% Si alloys with and without 0.1 wt.% Mg and effect
of equal channel angular pressing and subsequent heat treatment)

IT 105682-88-0, Copper 98, nickel 2, silicon 0.5 856008-39-4,
Copper 97, magnesium 0.1, nickel 2, silicon 0.5
(microstructure and mech. properties of thermomech. treated Cu-2
wt.% Ni- 0.5 wt.% Si alloys with and without 0.1 wt.% Mg and effect
of equal channel angular pressing and subsequent heat treatment)

OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS

RECORD (4 CITINGS)

L29 ANSWER 10 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2004:925507 HCAPLUS Full-text

DOCUMENT NUMBER: 143:81968

TITLE: Effect of trace addition on microstructure and mechanical properties of a Cu-Ni-Si alloy

AUTHOR(S): Hiraide, Hiroaki; Watanabe, Chihiro; Monzen, Ryoichi; Higashimine, Koichi

CORPORATE SOURCE: Division of Mechanical Systems Engineering, Kanazawa University Graduate School of Natural Science and Engineering, Japan

SOURCE: Do to Dogokin (2004), 43, 107-112

CODEN: DDOOAW; ISSN: 1347-7234

PUBLISHER: Do oyobi Dogokin Gijutsu Kenkyukai

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

ED Entered STN: 04 Nov 2004

AB The microstructure and mech. properties of Cu-2.0%Ni-0.5%Si alloys with and without 0.1% Sn, Ag, and Mg were investigated. The Mg addn. increased most the formation rate of disk-shaped δ -Ni₂Si particles. The Mg addn. produced the largest increase in strength and the highest resistance to stress relaxation. The improvement of strength or stress relaxation resistance was caused by the decrease in interparticle spacing by the Mg addn. or by the Mg-atom-drag effect on dislocation motion. The stress relaxation resistance for the Cu-Ni-Si alloy with a large grain size of 150 μ m was higher than that for the alloy with a small grain size of 10 μ m because the d. of mobile dislocations in the former alloy was lower.

IT 856008-38-3 856008-39-4 856008-40-7

(effect of trace addn. on microstructure and mech. properties of Cu-Ni-Si alloy)

RN 856008-38-3 HCAPLUS

CN Copper alloy, base, Cu 97,Ni 2,Si 0.5,Ag 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2	7440-02-0
Si	0.5	7440-21-3
Ag	0.1	7440-22-4

RN 856008-39-4 HCAPLUS

CN Copper alloy, base, Cu 97,Ni 2,Si 0.5,Mg 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2	7440-02-0
Si	0.5	7440-21-3
Mg	0.1	7439-95-4

RN 856008-40-7 HCAPLUS

CN Copper alloy, base, Cu 97,Ni 2,Si 0.5,Sn 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2	7440-02-0
Si	0.5	7440-21-3
Sn	0.1	7440-31-5

IT 12059-14-2, Nickel silicide (Ni₂Si)
 (particles; effect of trace addn. on microstructure and mech.
 properties of Cu-Ni-Si alloy)
 RN 12059-14-2 HCAPLUS
 CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 56-12 (Nonferrous Metals and Alloys)

IT 404384-77-6 856008-38-3 856008-39-4
 856008-40-7

(effect of trace addn. on microstructure and mech. properties of
 Cu-Ni-Si alloy)

IT 12059-14-2, Nickel silicide (Ni₂Si)
 (particles; effect of trace addn. on microstructure and mech.
 properties of Cu-Ni-Si alloy)

L29 ANSWER 11 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2004:245818 HCAPLUS Full-text

DOCUMENT NUMBER: 141:280920

TITLE: Aging procedure of Cu-15Ni-8Sn-0.4Si alloy

AUTHOR(S): Wang, Yan-hui; Wang, Ming-pu; Hong, Bin

CORPORATE SOURCE: Central South University, Changsha, 410083, Peop.
 Rep. China

SOURCE: Jixie Gongcheng Cailiao (2003), 27(11), 15-17

CODEN: JGCAEL; ISSN: 1000-3738

PUBLISHER: Jixie Gongyebu Shanghai Cailiao Yanjiuso

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

ED Entered STN: 25 Mar 2004

AB By means of measurements of cond. and hardness, metallog. anal., and TEM anal.,
 the change of properties and microstructure of Cu-15Ni-8Sn-0.4Si alloy due to
 380.degree. aging was studied. The results show that the pptn. of small Ni₂Si
 particles can restrain the discontinuous pptn. to some degree. With increasing
 time, the action is weakened. The cond. and hardness of Cu-15Ni-8Sn-0.4Si alloy
 are higher than those of Cu-15Ni-8Sn alloy.

IT 581805-89-2
 (aging procedure of Cu-15Ni-8Sn-0.4Si alloy)

RN 581805-89-2 HCAPLUS

CN Copper alloy, base, Cu 77,Ni 15,Sn 8,Si 0.4 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	77	7440-50-8
Ni	15	7440-02-0
Sn	8	7440-31-5
Si	0.4	7440-21-3

IT 12059-14-2, Nickel silicide (Ni₂Si)
 (in Cu-15Ni-8Sn-0.4Si alloy)
 RN 12059-14-2 HCAPLUS
 CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 56-5 (Nonferrous Metals and Alloys)

IT 581805-89-2

(aging procedure of Cu-15Ni-8Sn-0.4Si alloy)

IT 12059-14-2, Nickel silicide (Ni₂Si)
 (in Cu-15Ni-8Sn-0.4Si alloy)

L29 ANSWER 12 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2004:83069 HCAPLUS Full-text

DOCUMENT NUMBER: 141:57807

TITLE: Fabrication and characterization of silicon
 carbide/superalloy interfaces

AUTHOR(S): Li, Junqin; Xiao, Ping

CORPORATE SOURCE: Department of Materials Engineering, Shenzhen
 University, Shenzhen City, 518060, Peop. Rep.
 China

SOURCE: Journal of the European Ceramic Society (2004),
 24(7), 2149-2156

CODEN: JECSEJ; ISSN: 0955-2219

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 02 Feb 2004

AB Both silicon carbide ceramic (sintered SiC or reaction-bonded Si-SiC) and Inconel 600 superalloy (Ni₇₂Cr₁₆Fe₈ in wt.%) are promising structural materials for high temp. application because of their excellent mech. properties and good high temp. corrosion resistance. The reaction-bond silicon carbide (RBSC) was joined to an Inconel 600 (Ni₇₂Cr₁₆Fe₈ in wt.%) superalloy using the diffusion bonding method at 900-1080.degree.. The interfacial reaction between the RBSC and superalloy was investigated using optical and SEM, coupled with energy dispersive X-ray anal. (EDX) and wavelength dispersive spectroscopy (WDS). The reaction products were also studied using X-ray diffraction technique. The mech. properties of the joints were examd. using shear testing. Exptl. results showed that the interfacial reaction products at 900-950.degree. were various silicides with some voids formed in the RBSC. As the bonding temp. increased to 1000.degree., the superalloy/RBSC reactions become more intensive, although some pores in the RBSC were filled by the reaction products. With the bonding temp. increasing to 1080.degree., a thin layer of CrSi₂ was formed at superalloy/SiC interface without formation of any pores in the RBSC. The shear strength of this joint was measured as 126 MPa.

IT 12059-14-2, Nickel silicide (Ni₂Si)
 (phase, interface; fabrication and characterization of silicon
 carbide/superalloy interfaces)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 12606-02-9, Inconel 600

(superalloy; fabrication and characterization of silicon
 carbide/superalloy interfaces)

RN 12606-02-9 HCAPLUS

CN Nickel alloy, base, Ni 72.0-80,Cr 14.0-17.0,Fe 6.0-10.0,Mn 0-1.0,Cu

0-0.5,Si 0-0.5,C 0-0.15,S 0-0.015 (UNS N06600) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Ni	72.0 - 80	7440-02-0
Cr	14.0 - 17.0	7440-47-3
Fe	6.0 - 10.0	7439-89-6
Mn	0 - 1.0	7439-96-5
Cu	0 - 0.5	7440-50-8
Si	0 - 0.5	7440-21-3
C	0 - 0.15	7440-44-0
S	0 - 0.015	7704-34-9

CC 56-9 (Nonferrous Metals and Alloys)

Section cross-reference(s): 57

IT 11105-45-6 12018-09-6, Chromium silicide (CrSi₂) 12018-36-9,
Chromium silicide (Cr₃Si) 12035-57-3, Nickel silicide (NiSi)
12059-14-2, Nickel silicide (Ni₂Si) 12059-27-7, Nickel
silicide (Ni₅Si₂) 12201-89-7, Nickel silicide (NiSi₂) 66590-82-7,
Chromium nickel silicide (Cr₃Ni₅Si₂) 706822-90-4, Chromium nickel
carbide silicide (Cr₃Ni₅CSi_{1.8})
(phase, interface; fabrication and characterization of silicon
carbide/superalloy interfaces)

IT 12606-02-9, Inconel 600

(superalloy; fabrication and characterization of silicon
carbide/superalloy interfaces)OS.CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS
RECORD (9 CITINGS)REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L29 ANSWER 13 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2003:763351 HCAPLUS Full-text

DOCUMENT NUMBER: 140:131874

TITLE: Aging behavior of Cu-Ni-Si alloy

AUTHOR(S): Zhao, Dongmei; Dong, Q. M.; Liu, P.; Kang, B. X.;
Huang, J. L.; Jin, Z. H.CORPORATE SOURCE: School of Materials Science and Engineering, Xi'an
Jiaotong University, Xi'an, 710049, Peop. Rep.
ChinaSOURCE: Materials Science & Engineering, A: Structural
Materials: Properties, Microstructure and
Processing (2003), A361(1-2), 93-99
CODEN: MSAPE3; ISSN: 0921-5093

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 30 Sep 2003

AB TEM and high-resoln. TEM (HREM) were employed to study the microstructure and
transformation of Cu-Ni-Si alloy. In Cu-1.0Ni-0.25Si-0.1Zn (wt.%) alloy, the ppt.
responsible for the age-hardening effect was the .delta.-Ni₂Si originating in
nucleation process. On aging at the temp. below .apprx.773 K in
Cu-3.2Ni-0.75Si-0.3Zn (wt.%) alloy, there were three different transformation
products: a modulated structure resulting from spinodal decompn., a (Cu,Ni)₃Si with

D022 ordering structure nucleating from the modulated structure, and a .delta.-Ni₂Si phase with disk-like structure appearing in (Ni,Si)-rich regions. Upon aging at the temp. above .apprx.773 K, the transformation products were grain boundary and intragranular pptns. of .delta.-Ni₂Si. The free energy vs. compn. curves were employed to further explain the exptl. observations.

IT 151511-92-1 212775-24-1
 (aging and pptn. strengthening of Cu-Ni-Si-Zn alloy)
 RN 151511-92-1 HCAPLUS
 CN Copper alloy, base, Cu 96,Ni 3.2,Si 0.8,Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3.2	7440-02-0
Si	0.8	7440-21-3
Zn	0.3	7440-66-6

RN 212775-24-1 HCAPLUS
 CN Copper alloy, base, Cu 99,Ni 1,Si 0.2,Zn 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	99	7440-50-8
Ni	1	7440-02-0
Si	0.2	7440-21-3
Zn	0.1	7440-66-6

IT 12059-14-2, Nickel silicide Ni₂Si
 (pptn. of; aging and pptn. strengthening of Cu-Ni-Si-Zn alloy)
 RN 12059-14-2 HCAPLUS
 CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 56-5 (Nonferrous Metals and Alloys)
 Section cross-reference(s): 76

IT 151511-92-1 212775-24-1
 (aging and pptn. strengthening of Cu-Ni-Si-Zn alloy)

IT 12059-14-2, Nickel silicide Ni₂Si 476444-63-0, Copper
 nickel silicide (Cu,Ni)₃Si

(pptn. of; aging and pptn. strengthening of Cu-Ni-Si-Zn alloy)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS
 RECORD (2 CITINGS)

REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L29 ANSWER 14 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2003:627452 HCAPLUS Full-text

DOCUMENT NUMBER: 140:97528

TITLE: Kinetics of aging process of
 Cu-3.2Ni-0.75Si-0.30Zn alloy

AUTHOR(S): Zhang, Ling-feng; Liu, Ping; Kang, Bu-xi; Zhao,
 Dong-mei; Tian, Bao-hong; Dong, Qi-ming

CORPORATE SOURCE: Department of Materials Science and Engineering,

SOURCE: Luoyang Institute of Technology, Luoyang, 471039,
 Peop. Rep. China
 Zhongguo Youse Jinshu Xuebao (2003), 13(3),
 717-721
 CODEN: ZYJXFK; ISSN: 1004-0609
 PUBLISHER: Kexue Chubanshe
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese

ED Entered STN: 15 Aug 2003

AB By studying the change of the resistivity in aging process, the kinetics of the aging process of Cu-3.2Ni-0.75Si-0.30Zn alloy was analyzed. The results show that diffusion is the main factor in the deposition of alloy, so in the early stage the enriched area is formed through spinodal decompn., then the process of ordering happened in those fields, and finally the phase of δ -Ni₂Si is deposited. During aging at higher temp. the driving force of phase transformation becomes the main factor. For the driving force of δ -Ni₂Si is higher, it can be deposited directly. The transformation of microstructure was studied with TEM, the time-temp.-transformation curve (T-T-T curve) was obtained.

IT 151511-92-1

(kinetics of aging process of Cu-3.2Ni-0.75Si-0.30Zn alloy measured from elec. resistance changes)

RN 151511-92-1 HCAPLUS

CN Copper alloy, base, Cu 96,Ni 3.2,Si 0.8,Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3.2	7440-02-0
Si	0.8	7440-21-3
Zn	0.3	7440-66-6

IT 12059-14-2, Nickel silicide Ni₂Si

(pptn. of; kinetics of aging process of Cu-3.2Ni-0.75Si-0.30Zn alloy measured from elec. resistance changes)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 56-5 (Nonferrous Metals and Alloys)
 Section cross-reference(s): 76

IT 151511-92-1

(kinetics of aging process of Cu-3.2Ni-0.75Si-0.30Zn alloy measured from elec. resistance changes)

IT 12059-14-2, Nickel silicide Ni₂Si

(pptn. of; kinetics of aging process of Cu-3.2Ni-0.75Si-0.30Zn alloy measured from elec. resistance changes)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

L29 ANSWER 15 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2003:404077 HCAPLUS Full-text

DOCUMENT NUMBER: 139:183812

TITLE: Effect of Si addition on the microstructure and
 properties of Cu-15Ni-8Sn alloy

AUTHOR(S): Wang, Yanhui; Wang, Mingpu; Hong, Bin; Li, Zhou;

CORPORATE SOURCE: Xu, Genying
 Department of Material Science and Engineering,
 Central South University, Changsha, 410083, Peop.
 Rep. China
 SOURCE: Jinshu Rechuli (2003), 28(1), 41-44
 CODEN: JRECDB; ISSN: 0254-6051
 PUBLISHER: Jinshu Rechuli Bianjibu
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 ED Entered STN: 28 May 2003
 AB The effect of the addn. of Si (at 0.4%) on the microstructure and properties of
 Cu-15Ni-8Sn alloy was studied by metallog. observation, SEM, TEM, and energy
 spectrum anal. The results showed that the added Si atoms combine with Ni atoms,
 forming Ni₃Si and Ni₂Si. The cond. and hardness of the Si-added alloy were
 increased during aging, due to the pptn. of the Ni₂Si phase.
 IT 581805-89-2, Copper 77, nickel 15, silicon 0.4, tin 8
 (effect of Si addn. on microstructure and properties of Cu-15Ni-8Sn
 alloy)
 RN 581805-89-2 HCAPLUS
 CN Copper alloy, base, Cu 77, Ni 15, Sn 8, Si 0.4 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	77	7440-50-8
Ni	15	7440-02-0
Sn	8	7440-31-5
Si	0.4	7440-21-3

IT 12059-14-2, Nickel silicide Ni₂Si
 (pptn. hardening by; effect of Si addn. on microstructure and
 properties of Cu-15Ni-8Sn alloy)
 RN 12059-14-2 HCAPLUS
 CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 56-12 (Nonferrous Metals and Alloys)
 Section cross-reference(s): 76

IT 70747-62-5 581805-89-2, Copper 77, nickel 15, silicon 0.4,
 tin 8
 (effect of Si addn. on microstructure and properties of Cu-15Ni-8Sn
 alloy)

IT 12059-14-2, Nickel silicide Ni₂Si 12059-22-2, Nickel
 silicide Ni₃Si
 (pptn. hardening by; effect of Si addn. on microstructure and
 properties of Cu-15Ni-8Sn alloy)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

L29 ANSWER 16 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2003:386982 HCAPLUS Full-text

DOCUMENT NUMBER: 138:389136

TITLE: Lead-free copper alloy with good machinability for casting

INVENTOR(S): Kobayashi, Takeshi; Maruyama, Toru

PATENT ASSIGNEE(S): Shiga Barubu Kyodo Kumiai, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003147460	A	20030521	JP 2001-346584	20011112
			<--	
PRIORITY APPLN. INFO.:			JP 2001-346584	20011112
			<--	

ED Entered STN: 21 May 2003

AB The Cu alloy contains (1) Si 0.5-2.5 and (2) Mn 0.5-4 and/or Ni 0.5-3.5%, and Mn₅Si₃ and/or Ni₂Si are dispersed in the alloy. The alloy may contain Sn, Al, Zn, and/or P. The harmful Pb-free alloy is suitable for water taps and faucets.

IT 527683-76-7 527683-78-9 527683-80-3
 527683-82-5 527683-84-7 527683-86-9
 527683-89-2 527683-91-6 527683-94-9

(Pb-free Cu-Si-Mn/Ni alloy with good machinability for casting)

RN 527683-76-7 HCAPLUS

CN Copper alloy, base, Cu 85,Zn 5.7,Sn 4.1,Ni 2.9,Si 2.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	85	7440-50-8
Zn	5.7	7440-66-6
Sn	4.1	7440-31-5
Ni	2.9	7440-02-0
Si	2.2	7440-21-3

RN 527683-78-9 HCAPLUS

CN Copper alloy, base, Cu 86,Zn 5.6,Sn 3.8,Ni 3,Si 1.7 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	86	7440-50-8
Zn	5.6	7440-66-6
Sn	3.8	7440-31-5
Ni	3	7440-02-0
Si	1.7	7440-21-3

RN 527683-80-3 HCAPLUS

CN Copper alloy, base, Cu 87,Zn 5.2,Sn 4,Ni 3.1,Si 0.8 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	87	7440-50-8
Zn	5.2	7440-66-6

12/421,128

Sn	4	7440-31-5
Ni	3.1	7440-02-0
Si	0.8	7440-21-3

RN 527683-82-5 HCAPLUS

CN Copper alloy, base, Cu 87,Zn 5.7,Sn 3.8,Ni 3, Si 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	87	7440-50-8
Zn	5.7	7440-66-6
Sn	3.8	7440-31-5
Ni	3	7440-02-0
Si	0.5	7440-21-3

RN 527683-84-7 HCAPLUS

CN Copper alloy, base, Cu 82,Zn 11,Mn 3.8, Si 1.5,Ni 1.4 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	82	7440-50-8
Zn	11	7440-66-6
Mn	3.8	7439-96-5
Si	1.5	7440-21-3
Ni	1.4	7440-02-0

RN 527683-86-9 HCAPLUS

CN Copper alloy, base, Cu 84,Zn 8.4,Mn 3.8,Sn 1.7,Ni 1.3, Si 1.3 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	84	7440-50-8
Zn	8.4	7440-66-6
Mn	3.8	7439-96-5
Sn	1.7	7440-31-5
Ni	1.3	7440-02-0
Si	1.3	7440-21-3

RN 527683-89-2 HCAPLUS

CN Copper alloy, base, Cu 84,Zn 7.3,Mn 3.8,Sn 2.7,Ni 1.4, Si 1.3 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	84	7440-50-8
Zn	7.3	7440-66-6
Mn	3.8	7439-96-5
Sn	2.7	7440-31-5
Ni	1.4	7440-02-0

Si 1.3 7440-21-3

RN 527683-91-6 HCAPLUS

CN Copper alloy, base, Cu 84,Zn 5.3,Sn 4.5,Mn 3.2,Ni 1.5,Si 1.2 (9CI)
(CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	84	7440-50-8
Zn	5.3	7440-66-6
Sn	4.5	7440-31-5
Mn	3.2	7439-96-5
Ni	1.5	7440-02-0
Si	1.2	7440-21-3

RN 527683-94-9 HCAPLUS

CN Copper alloy, base, Cu 83-84,Zn 5.8,Sn 4.6,Mn 3.1,Ni 1.5,Si 1.4,Fe
0-0.1,Pb 0-0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	83 - 84	7440-50-8
Zn	5.8	7440-66-6
Sn	4.6	7440-31-5
Mn	3.1	7439-96-5
Ni	1.5	7440-02-0
Si	1.4	7440-21-3
Fe	0 - 0.1	7439-89-6
Pb	0 - 0.1	7439-92-1

IT 12059-14-2, Nickel silicide (Ni₂Si)
(dispersed in alloy; Pb-free Cu-Si-Mn/Ni alloy with good
machinability for casting)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IPCI C22C0009-10 [ICM,7]; C22C0009-02 [ICS,7]; C22C0009-04 [ICS,7];
C22C0009-05 [ICS,7]; C22C0009-06 [ICS,7]

IPCR C22C0009-10 [I,A]; C22C0009-02 [I,A]; C22C0009-04 [I,A]; C22C0009-05
[I,A]; C22C0009-06 [I,A]

CC 56-3 (Nonferrous Metals and Alloys)

IT 527683-76-7 527683-78-9 527683-80-3
527683-82-5 527683-84-7 527683-86-9
527683-89-2 527683-91-6 527683-94-9
527683-96-1

(Pb-free Cu-Si-Mn/Ni alloy with good machinability for casting)

IT 12033-10-2, Manganese silicide (Mn₅Si₃) 12059-14-2, Nickel
silicide (Ni₂Si)

(dispersed in alloy; Pb-free Cu-Si-Mn/Ni alloy with good
machinability for casting)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
RECORD (1 CITINGS)

L29 ANSWER 17 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2003:375928 HCAPLUS Full-text

DOCUMENT NUMBER: 139:279888

TITLE: Joining reaction-bonded silicon carbide using
Inconel 600 superalloy

AUTHOR(S): Li, Junqin; Zhu, Guangming; Xiao, Ping

CORPORATE SOURCE: Department of Materials Science and Engineering,
Shenzhen University, Shenzhen, GD518060, Peop.
Rep. ChinaSOURCE: Journal of Materials Science Letters (2003),
22(10), 759-761

CODEN: JMSLD5; ISSN: 0261-8028

PUBLISHER: Kluwer Academic Publishers

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 16 May 2003

AB Reaction bonded SiC ceramics were successfully joined by diffusion bonding at 900-1080.degree. using an Inconel 600 superalloy. The interfacial reaction products at low joining temp. (.ltoreq.1000.degree.) were various silicide layers with some voids formed in the reaction bonded SiC region, resulting in poor shear strength. When the bonding temp. was increased to 1080.degree., a thin layer of CrSi2 was formed at the superalloy/SiC interface without void formation in the reaction bonded SiC region, resulting in high shear strength of 126 MPa.

IT 12059-14-2, Nickel silicide (Ni2Si)

(interface reaction phase; effects of diffusion bonding temp. on interlayer structure and shear strength of reaction-bonded SiC ceramic joints prepd. using Inconel 600 superalloy interlayer)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 12606-02-9, Nickel alloy, Ni 72.0-80,Cr 14.0-17.0,Fe

6.0-10.0,Mn 0-1.0,Cu 0-0.5,Si 0-0.5,C 0-0.15,S 0-0.015 (UNS N06600)

(interlayer; effects of diffusion bonding temp. on interlayer structure and shear strength of reaction-bonded SiC ceramic joints prepd. using Inconel 600 superalloy interlayer)

RN 12606-02-9 HCAPLUS

CN Nickel alloy, base, Ni 72.0-80,Cr 14.0-17.0,Fe 6.0-10.0,Mn 0-1.0,Cu 0-0.5,Si 0-0.5,C 0-0.15,S 0-0.015 (UNS N06600) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Ni	72.0 - 80	7440-02-0
Cr	14.0 - 17.0	7440-47-3
Fe	6.0 - 10.0	7439-89-6
Mn	0 - 1.0	7439-96-5
Cu	0 - 0.5	7440-50-8
Si	0 - 0.5	7440-21-3
C	0 - 0.15	7440-44-0
S	0 - 0.015	7704-34-9

CC 57-2 (Ceramics)

Section cross-reference(s): 56

IT 12018-09-6, Chromium silicide (CrSi2) 12018-36-9, Chromium silicide
cr3si 12035-57-3, Nisi 12059-14-2, Nickel silicide

(Ni₂Si) 12201-89-7, Nickel silicide (NiSi₂) 66590-82-7, Chromium nickel silicide Cr₃Ni₅Si₂
 (interface reaction phase; effects of diffusion bonding temp. on interlayer structure and shear strength of reaction-bonded SiC ceramic joints prepd. using Inconel 600 superalloy interlayer)
 IT 12606-02-9, Nickel alloy, Ni 72.0-80, Cr 14.0-17.0, Fe 6.0-10.0, Mn 0-1.0, Cu 0-0.5, Si 0-0.5, C 0-0.15, S 0-0.015 (UNS N06600)
 (interlayer; effects of diffusion bonding temp. on interlayer structure and shear strength of reaction-bonded SiC ceramic joints prepd. using Inconel 600 superalloy interlayer)
 OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
 REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 18 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 2003:229273 HCAPLUS Full-text
 DOCUMENT NUMBER: 139:10250
 TITLE: Precipitation in Cu-Ni-Si-Zn alloy for lead frame
 AUTHOR(S): Huang, Fuxiang; Ma, Jusheng; Ning, Honglong; Cao, YuWen; Geng, Zhiting
 CORPORATE SOURCE: Department of Materials Science and Engineering, Tsinghua University, Beijing, 100084, Peop. Rep. China
 SOURCE: Materials Letters (2003), 57(13-14), 2135-2139
 CODEN: MLETDJ; ISSN: 0167-577X
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 25 Mar 2003
 AB The aging of Cu-Ni-Si-Zn alloy for lead frame is investigated. The peak of hardening effect occurred after aging for .apprx.1 h and the elec. cond. increased continuously with aging times. The hardness of the alloy reached a peak at 430-460.degree. for 2 h and elec. cond. reached a peak at 500-550.degree. and continuously decreased afterwards. The cold rolling prior to the aging treatment was used to increase the pptn. rate. The ppts. responsible for the age-hardening effect are disk-shaped .delta.-Ni₂Si particles with an orthorhombic structure.
 IT 108000-85-7
 (pptn. hardening and el. cond. of Cu-Ni-Si-Zn alloy for lead frame)
 RN 108000-85-7 HCAPLUS
 CN Copper alloy, base, Cu 96, Ni 3.2, Si 0.7, Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3.2	7440-02-0
Si	0.7	7440-21-3
Zn	0.3	7440-66-6

IT 12059-14-2, Nickel silicide (Ni₂Si)
 (pptn. hardening and el. cond. of Cu-Ni-Si-Zn alloy for lead frame)
 RN 12059-14-2 HCAPLUS
 CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 56-8 (Nonferrous Metals and Alloys)

Section cross-reference(s): 76

IT 108000-85-7

(pptn. hardening and el. cond. of Cu-Ni-Si-Zn alloy for lead frame)

IT 12059-14-2, Nickel silicide (Ni₂Si)

(pptn. hardening and el. cond. of Cu-Ni-Si-Zn alloy for lead frame)

OS.CITING REF COUNT: 16 THERE ARE 16 CAPLUS RECORDS THAT CITE THIS RECORD (16 CITINGS)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 19 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2003:73700 HCAPLUS Full-text

DOCUMENT NUMBER: 138:258545

TITLE: Transformation and strengthening of early stage of aging in Cu-3.2Ni-0.75Si alloy

AUTHOR(S): Zhao, Dong-mei; Dong, Qi-ming; Liu, Ping; Kang, Bu-xi; Huang, Jin-liang; Tian, Bao-hong; Jin, Zhi-hao

CORPORATE SOURCE: School of Materials Science and Engineering, Xi'an Jiaotong University, Xi'an, 710049, Peop. Rep. China

SOURCE: Zhongguo Youse Jinshu Xuebao (2002), 12(6), 1167-1171

CODEN: ZYJXFK; ISSN: 1004-0609

PUBLISHER: Zhongguo Youse Jinshu Xuebao Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

ED Entered STN: 30 Jan 2003

AB The transformation of the early stage of aging in Cu-3.2Ni-0.75Si alloy was investigated by TEM and X-ray diffraction. It is shown that the supersatd. soln. Cu-Ni-Si alloy first decomp. into solute-rich and solute-depleted zones by spinodal mechanism, then the solute-rich zones form Ni₂Si phases which remain coherent with the matrix. Due to the significant difference in structure between the matrix and the ppt., an Orowan type strengthening mechanism is believed to still operate. The strengthening effect of the spinodal structure aged at 450 .degree.C for 2 h is calcd. to be 342 MPa by using dislocation theory, and that of the Ni₂Si phase pptd. in aging at 450 .degree.C for 4 h is about 405 MPa, which are quite consistent with the exptl. data.

IT 12059-14-2, Nickel silicide Ni₂Si

(pptn. strengthening by; transformation and strengthening of early stage of aging in Cu-3.2Ni-0.75Si alloy)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 151511-92-1

(transformation and strengthening of early stage of aging in Cu-3.2Ni-0.75Si alloy)

RN 151511-92-1 HCAPLUS

CN Copper alloy, base, Cu 96, Ni 3.2, Si 0.8, Zn 0.3 (CA INDEX NAME)

Component	Component	Component
	Percent	Registry Number

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=====+=====+=====
Cu          96          7440-50-8
Ni          3.2         7440-02-0
Si          0.8         7440-21-3
Zn          0.3         7440-66-6

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CC 56-5 (Nonferrous Metals and Alloys)

IT 12059-14-2, Nickel silicide Ni₂Si

(pptn. strengthening by; transformation and strengthening of early stage of aging in Cu-3.2Ni-0.75Si alloy)

IT 151511-92-1

(transformation and strengthening of early stage of aging in Cu-3.2Ni-0.75Si alloy)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L29 ANSWER 20 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2002:565032 HCAPLUS Full-text

DOCUMENT NUMBER: 137:266397

TITLE: Study on the ageing process of a super high-strength Cu-Ni-Si alloy

AUTHOR(S): Zhao, Dong-mei; Dong, Qi-ming; Liu, Ping; Kang, Bu-xi; Jin, Zhi-hao

CORPORATE SOURCE: Institute of Materials Science and Engineering, Xi'an Jiaotong University, Xi'an, 710049, Peop. Rep. China

SOURCE: Cailiao Rechuli Xuebao (2002), 23(2), 20-23

CODEN: CRXAAK; ISSN: 1009-6264

PUBLISHER: Cailiao Rechuli Xuebao Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

ED Entered STN: 31 Jul 2002

AB The mechanism of microstructural transformation of Cu-3.2Ni-0.75Si (wt.%) aged at 450.degree.C has been studied using TEM. It is found that the supersatd. Cu-Ni-Si alloy solid soln. first decomp. into rich-solute and depleted-solute regions by spinodal mechanism. Thereafter, the rich-solute region undergoes nucleation and growth transformation to form a Ni₂Si which remained semi-coherent with the matrix. After aged for 4h, semi-coherency was broken, while as the hardness of the alloy decreased distinctly. The crit. size (r) of Ni₂Si phase in semi-coherent with matrix is calcd. to be about 6 nm in terms of the dislocation theory, which is quite consistent with the expt. data.

IT 151511-92-1

(aging process of super high-strength Cu-Ni-Si alloy)

RN 151511-92-1 HCAPLUS

CN Copper alloy, base, Cu 96,Ni 3.2,Si 0.8,Zn 0.3 (CA INDEX NAME)

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Component      Component      Component
                Percent      Registry Number
=====+=====+=====
Cu          96          7440-50-8
Ni          3.2         7440-02-0
Si          0.8         7440-21-3
Zn          0.3         7440-66-6

```

IT 12059-14-2, Nickel silicide Ni₂Si

(pptn. of; aging process of super high-strength Cu-Ni-Si alloy)

RN 12059-14-2 HCAPLUS
 CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 56-5 (Nonferrous Metals and Alloys)

IT 151511-92-1

(aging process of super high-strength Cu-Ni-Si alloy)

IT 12059-14-2, Nickel silicide Ni₂Si

(pptn. of; aging process of super high-strength Cu-Ni-Si alloy)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS
 RECORD (2 CITINGS)

L29 ANSWER 21 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2002:494531 HCAPLUS Full-text

DOCUMENT NUMBER: 137:204652

TITLE: Solid-state bonding of silicon carbide to metal
 using Cr and Ni double-layer plated Mo plate

AUTHOR(S): Komori, Daisuke; Takashima, Toshiyuki; Yamamoto,
 Tsuyoshi

CORPORATE SOURCE: Department of Mechanical System Engineering,
 Hokkaido Institute of Technology, Japan

SOURCE: Hokkaido Kogyo Daigaku Kenkyu Kiyo (2002), 30,
 183-188

CODEN: HODKDL; ISSN: 0385-0862

PUBLISHER: Hokkaido Kogyo Daigaku

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

ED Entered STN: 02 Jul 2002

AB SiC ceramics were joined to kovar alloy using a Cr/Ni double-layer plated Mo insert. The Cr/Ni double-layer plated Mo insert was annealed at 1373K before joining. The joining was performed at 1273-1473K in a dynamic vacuum atm. The structure and compn. of the reaction layers were investigated by SEM, electron probe microanal., and X-ray diffraction anal. Joining strengths were measured by 4-point bending test. Reaction layers comprising Cr-C (Cr₃C₂, Cr₂₃C₆), Cr-Si (Cr₃Si), Ni-Si (Ni₂Si), and Cr-Si-C (Cr_{5-x}Si_{3-z}C_{x+z}) were formed between ceramics surface and the Ni-Cr alloy layers. The max. fracture. strength of SiC/Kovar-alloy couples was 250 MPa at room temp.

IT 12059-14-2, Nickel silicide (Ni₂Si)

(in solid-state bonding of silicon carbide to metal using Cr and Ni
 double layer plated Mo plate)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 39332-67-7, Kovar

(to be joined with SiC; solid-state bonding of silicon carbide to
 metal using Cr and Ni double layer plated Mo plate)

RN 39332-67-7 HCAPLUS

CN Iron alloy, base, Fe 53, Ni 29, Co 17, Mn 0-0.50, Cr 0-0.20, Cu 0-0.20, Mo
 0-0.20, Si 0-0.20, Al 0-0.10, Mg 0-0.10, Ti 0-0.10, Zr 0-0.10, C 0-0.04 (UNS
 K94610) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+	=====+	=====
Fe	53	7439-89-6

Ni	29		7440-02-0
Co	17		7440-48-4
Mn	0	- 0.50	7439-96-5
Cr	0	- 0.20	7440-47-3
Cu	0	- 0.20	7440-50-8
Mo	0	- 0.20	7439-98-7
Si	0	- 0.20	7440-21-3
Al	0	- 0.10	7429-90-5
Mg	0	- 0.10	7439-95-4
Ti	0	- 0.10	7440-32-6
Zr	0	- 0.10	7440-67-7
C	0	- 0.04	7440-44-0

CC 56-9 (Nonferrous Metals and Alloys)

IT 12012-35-0, Chromium carbide (Cr3C2) 12018-36-9, Chromium silicide (Cr3Si) 12059-14-2, Nickel silicide (Ni2Si) 12105-81-6, Chromium carbide (Cr23C6) 91984-81-5, Chromium carbide silicide (CrCSi)
(in solid-state bonding of silicon carbide to metal using Cr and Ni double layer plated Mo plate)

IT 39332-67-7, Kovar
(to be joined with SiC; solid-state bonding of silicon carbide to metal using Cr and Ni double layer plated Mo plate)

L29 ANSWER 22 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2000:655053 HCAPLUS Full-text

DOCUMENT NUMBER: 133:211591

TITLE: Zirconium and/or titanium micro-alloyed copper alloy

INVENTOR(S): Popa, Enuta Angela; Macovei, Costica; Biris, Vasile; Deak, Francisc; Popa, Constantin; Avasilichioaei, Gheorghe

PATENT ASSIGNEE(S): S.C. Elcond S.A., Rom.

SOURCE: Rom., 5 pp.

CODEN: RUXXA3

DOCUMENT TYPE: Patent

LANGUAGE: Romanian

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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RO 110349	B1	19951229	RO 1995-719	19950414

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PRIORITY APPLN. INFO.: RO 1995-719 19950414

<--

ED Entered STN: 20 Sep 2000

AB Zirconium and/or titanium micro-alloyed copper alloy contg. Ni 2.5-4, Si 0.4-1, Cr 0.2-0.7, Zr 0.01-0.5 and/or Ti 0.01-0.5% rest copper is prep'd. by solubilization at 1075.degree. in the forged base alloy, heat treatment at 477-575.degree. for 4 h, followed by slow cooling to ppt. hard silicide phases Ni2Si, Cr3Si, and Cr2Ti(Zr).

IT 12059-14-2, Nickel silicide (Ni2Si)
(ppt.; in heat-treated and slow-cooled zirconium and/or titanium micro-alloyed copper alloy)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 289892-44-0P

(zirconium and/or titanium micro-alloyed copper alloy)

RN 289892-44-0 HCAPLUS

CN Copper alloy, base, Cu 93-97, Ni 2.5-4, Si 0.4-1, Cr 0.2-0.7, Ti 0-0.5, Zr 0-0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Cu	93 - 97	7440-50-8
Ni	2.5 - 4	7440-02-0
Si	0.4 - 1	7440-21-3
Cr	0.2 - 0.7	7440-47-3
Ti	0 - 0.5	7440-32-6
Zr	0 - 0.5	7440-67-7

IPCI C22C0009-06 [ICM,6]; C22F0001-08 [ICS,6]

IPCR C22C0009-06 [I,A]; C22F0001-08 [I,A]

CC 56-2 (Nonferrous Metals and Alloys)

IT 12018-27-8 12018-36-9, Chromium silicide (Cr₃Si) 12053-41-7
12059-14-2, Nickel silicide (Ni₂Si)

(ppt.; in heat-treated and slow-cooled zirconium and/or titanium micro-alloyed copper alloy)

IT 289892-44-0P

(zirconium and/or titanium micro-alloyed copper alloy)

L29 ANSWER 23 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2000:9073 HCAPLUS Full-text

DOCUMENT NUMBER: 132:155244

TITLE: Effect of Mg addns. on the microstructure and mechanical properties of Cu-Ni-Si alloy

AUTHOR(S): Mizuno, Masataka; Itsumi, Yoshio; Kogura, Tetsuzo; Hamamoto, Takashi

CORPORATE SOURCE: Materials Research Center, Kobe Steel Co., Ltd., Japan

SOURCE: Shindo Gijutsu Kenkyu Kaishi (1999), 38, 291-297
CODEN: SGKEBX; ISSN: 0370-985X

PUBLISHER: Nippon Shindo Kyokai

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

ED Entered STN: 06 Jan 2000

AB The effect of Mg addns. of 0.008-0.2 wt.% on the mech. several properties and microstructure of Cu-1.8Ni-0.4Si-1.1 wt.% Zn alloy was studied. The stress relaxation resistance increases with Mg addn. .ltoreq.0.03 wt.%. However, the effect of addnl. Mg sats. at .apprx.0.1 wt.%. The bend formability decreases with increasing Mg content. In the specimen contg. 0.2wt% Mg, rod-shaped Ni-Si-Mg ppts. 200-500 nm diam. formed on grain boundaries during aging at 737 K, while the ppts. in the grains were Ni₂Si. In U-bend specimens, small cracks contg. the Ni-Si-Mg ppts. were obsd. Anal. of the diffraction patterns indicates that the Ni-Si-Mg ppt. has the tetragonal structure. Pptn. of the Ni-Si-Mg compd. depletes the available Mg which improves the stress relaxation resistance. Pptn. of the Ni-Si-Mg compd. decreases the effect of addnl. Mg on the stress relaxation resistance and causes a deterioration in the bend formability.

IT 12059-14-2P, Nickel silicide (Ni₂Si)
 (effect of Mg addns. on microstructure and mech. properties of
 Cu-Ni-Si alloy)
 RN 12059-14-2 HCAPLUS
 CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 245432-48-8, Copper 97, nickel 1.8, silicon 0.4, zinc 1.1
 (effect of Mg addns. on microstructure and mech. properties of
 Cu-Ni-Si alloy)
 RN 245432-48-8 HCAPLUS
 CN Copper alloy, base, Cu 97, Ni 1.8, Zn 1.1, Si 0.4 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	1.8	7440-02-0
Zn	1.1	7440-66-6
Si	0.4	7440-21-3

CC 56-12 (Nonferrous Metals and Alloys)
 IT 12059-14-2P, Nickel silicide (Ni₂Si) 257934-82-0P,
 Magnesium nickel silicide
 (effect of Mg addns. on microstructure and mech. properties of
 Cu-Ni-Si alloy)
 IT 245432-48-8, Copper 97, nickel 1.8, silicon 0.4, zinc 1.1
 (effect of Mg addns. on microstructure and mech. properties of
 Cu-Ni-Si alloy)
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

L29 ANSWER 24 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 1999:148794 HCAPLUS Full-text
 DOCUMENT NUMBER: 130:240529
 TITLE: Evaluation of halide-activated pack boriding of
 Inconel 722
 AUTHOR(S): Muhammad, W.; Hussain, K.; Tauqir, A.; Haq, A. Ul;
 Khan, A. Q.
 CORPORATE SOURCE: A.Q. Khan Laboratories, Kahuta, Pak.
 SOURCE: Metallurgical and Materials Transactions A:
 Physical Metallurgy and Materials Science
 (1999), 30A(3), 670-675
 CODEN: MMTAEB; ISSN: 1073-5623
 PUBLISHER: Minerals, Metals & Materials Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 09 Mar 1999
 AB The Vickers hardness of the boride-contg. coating on annealed Inconel 722 Ni
 superalloy specimens was higher than that on the annealed and aged specimens. The
 layer on the annealed and aged specimens was the thickest. The layer consisted
 of .delta.-Ni₂Si, Ni₂B and Ni₄B₃ phases. The abrasive wear resistance of the
 coated specimens was superior to that of the uncoated Ni alloy. The coated annealed
 specimens exhibited the highest wear resistance compared to that of the annealed
 and aged alloy.
 IT 12606-12-1, Inconel 722

(evaluation of halide-activated pack boronizing of Inconel 722)

RN 12606-12-1 HCAPLUS

CN Nickel alloy, base, Ni 70.0-79,Cr 14.0-17.0,Fe 5.0-9.0,Ti 2.00-2.75,Al
0.4-1.0,Mn 0-1.0,Si 0-0.7,Cu 0-0.5,C 0-0.08,S 0-0.01 (UNS N07722) (CA
INDEX NAME)

Component	Component Percent	Component Registry Number
Ni	70.0 - 79	7440-02-0
Cr	14.0 - 17.0	7440-47-3
Fe	5.0 - 9.0	7439-89-6
Ti	2.00 - 2.75	7440-32-6
Al	0.4 - 1.0	7429-90-5
Mn	0 - 1.0	7439-96-5
Si	0 - 0.7	7440-21-3
Cu	0 - 0.5	7440-50-8
C	0 - 0.08	7440-44-0
S	0 - 0.01	7704-34-9

IT 12059-14-2P, Nickel silicide (Ni₂Si)

(in evaluation of halide-activated pack boronizing of Inconel 722)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 56-7 (Nonferrous Metals and Alloys)

IT 12606-12-1, Inconel 722

(evaluation of halide-activated pack boronizing of Inconel 722)

IT 12007-01-1P, Nickel boride (ni₂b) 12045-67-9P, Nickel boride (ni₄b₃)
12059-14-2P, Nickel silicide (Ni₂Si)

(in evaluation of halide-activated pack boronizing of Inconel 722)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
RECORD (1 CITINGS)

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L29 ANSWER 25 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 1997:150878 HCAPLUS Full-text

DOCUMENT NUMBER: 126:160795

ORIGINAL REFERENCE NO.: 126:31037a,31040a

TITLE: Copper-nickel-silicon alloys having good solder
adhesion, coatability, and easy pickling
properties and their manufacture

INVENTOR(S): Myato, Motohisa; Hosokawa, Isao

PATENT ASSIGNEE(S): Kobe Steel Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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[illegible]

Si	0.4	7440-21-3
Sn	0.2	7440-31-5

RN 186799-41-7 HCAPLUS

CN Copper alloy, base, Cu 97,Ni 1.8,Zn 1,Si 0.4 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	1.8	7440-02-0
Zn	1	7440-66-6
Si	0.4	7440-21-3

RN 186799-42-8 HCAPLUS

CN Copper alloy, base, Cu 95,Ni 3.2,Zn 1,Si 0.7 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.2	7440-02-0
Zn	1	7440-66-6
Si	0.7	7440-21-3

RN 186799-43-9 HCAPLUS

CN Copper alloy, base, Cu 93,Ni 4,Zn 2,Si 0.9 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	93	7440-50-8
Ni	4	7440-02-0
Zn	2	7440-66-6
Si	0.9	7440-21-3

IT 12059-14-2P, Nickel silicide

(Cu-Ni-Si alloys contg. fine nickel silicide for solder adhesion, coatability, and easy pickling properties and their manuf.)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IPCI C22C0009-06 [ICM,6]; C22F0001-08 [ICS,6]

IPCR C22F0001-08 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [I,A]

CC 56-6 (Nonferrous Metals and Alloys)

Section cross-reference(s): 76

IT 186799-38-2 186799-39-3 186799-40-6

186799-41-7 186799-42-8 186799-43-9

(Cu-Ni-Si alloys contg. fine nickel silicide for solder adhesion, coatability, and easy pickling properties and their manuf.)

IT 12059-14-2P, Nickel silicide

(Cu-Ni-Si alloys contg. fine nickel silicide for solder adhesion, coatability, and easy pickling properties and their manuf.)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L29 ANSWER 26 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 1996:561227 HCAPLUS Full-text

DOCUMENT NUMBER: 125:202146

ORIGINAL REFERENCE NO.: 125:37725a,37728a

TITLE: Chemical behavior in diffusion bonding of Si₃N₄-Ni and Si₃N₄-superalloy IN-738

AUTHOR(S): Chen, Y. C.; Iwamoto, C.; Ishida, Y.

CORPORATE SOURCE: Dep. of Material Science, The University of Tokyo, Tokyo, Japan

SOURCE: Scripta Materialia (1996), 35(6), 675-681

CODEN: SCMAF7; ISSN: 1359-6462

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 20 Sep 1996

AB Solid state diffusion bonding of Ni/Si₃N₄ and Ni-based superalloy IN-738/Si₃N₄ were investigated by TEM. At 1123 K, no reaction products were found at the Ni/Si₃N₄ bonding interface, even the specimen with a 25 h heat treatment time, while at the IN-738/Si₃N₄ bonding interface, Cr₃Ni₂Si, Ni₃Si₁₂, δ -Ni₂Si, and Cr₃Si were found. According to thermodyn. theory, the N₂ pressure near the Ni/Si₃N₄ interface might be over 102 Pa, and be lower than 10⁻³ Pa for IN-738/Si₃N₄. The Cr₃Ni₂Si was characterized by TEM as the n-phase whose compn. has not been detd. in the Cr-Ni-Si system. Existence of Cr₃Ni₂Si was thought to be one of the reasons that the N₂ atmosphere decreased in IN-738/Si₃N₄ diffusion bonding. Std. formation energy of Cr₃Ni₂Si was estd. to be lower than -136 kJ/mol.

IT 12773-70-5, IN 738

(interfacial reaction products in diffusion bonding of Si₃N₄-Ni and Si₃N₄-superalloy IN-738)

RN 12773-70-5 HCAPLUS

CN Nickel alloy, base, Ni 58-63, Cr 16, Co 8-9, Al 3.2-3.7, Ti 3.2-3.7, W 2.4-2.8, Mo 1.5-2, Ta 1.5-2, Nb 0.6-1.1, Cu 0-0.5, Fe 0-0.5, Si 0-0.5, C 0-0.2, Mn 0-0.2, Zr 0-0.1 (IN 738) (CA INDEX NAME)

Component	Component Percent			Component Registry Number
=====+=====+=====				
Ni	58	-	63	7440-02-0
Cr		16		7440-47-3
Co	8	-	9	7440-48-4
Al	3.2	-	3.7	7429-90-5
Ti	3.2	-	3.7	7440-32-6
W	2.4	-	2.8	7440-33-7
Mo	1.5	-	2	7439-98-7
Ta	1.5	-	2	7440-25-7
Nb	0.6	-	1.1	7440-03-1
Cu	0	-	0.5	7440-50-8
Fe	0	-	0.5	7439-89-6
Si	0	-	0.5	7440-21-3
C	0	-	0.2	7440-44-0
Mn	0	-	0.2	7439-96-5
Zr	0	-	0.1	7440-67-7

IT 12059-14-2, Nickel silicide Ni₂Si

(reaction product; interfacial reaction products in diffusion bonding of Si₃N₄-Ni and Si₃N₄-superalloy IN-738)

RN 12059-14-2 HCAPLUS
 CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 56-8 (Nonferrous Metals and Alloys)

Section cross-reference(s): 57

IT 7440-02-0, Nickel, processes 12033-89-5, Silicon nitride, processes
 12773-70-5, IN 738

(interfacial reaction products in diffusion bonding of Si₃N₄-Ni and
 Si₃N₄-superalloy IN-738)

IT 11074-83-2, Nickel silicide Ni₃Si₂ 12018-36-9, Chromium silicide
 Cr₃Si 12059-14-2, Nickel silicide Ni₂Si 176373-80-1,
 Chromium nickel silicide Cr₃Ni₂Si

(reaction product; interfacial reaction products in diffusion
 bonding of Si₃N₄-Ni and Si₃N₄-superalloy IN-738)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS
 RECORD (2 CITINGS)

L29 ANSWER 27 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 1996:278781 HCAPLUS Full-text

DOCUMENT NUMBER: 124:323282

ORIGINAL REFERENCE NO.: 124:59795a,59798a

TITLE: Reaction products at the interface of IN-738/Si₃N₄
 bond

AUTHOR(S): Chen, Y. C.; Iwamoto, C.; Ishida, Y.

CORPORATE SOURCE: Faculty of Engineering, The University of Tokyo,
 Tokyo, 113, Japan

SOURCE: Materials Transactions, JIM (1996), 37(3), 189-194
 CODEN: MTJIEY; ISSN: 0916-1821

PUBLISHER: Japan Institute of Metals

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 11 May 1996

AB The purpose of this study was to investigate the interface microstructure and
 reaction products morphol. in solid state diffusion bonding of silicon nitride
 ceramic/Ni-based superalloy (IN-738) joints. Compds. such as Cr₃Si, Ni₃Si₂,
 .delta.-Ni₂Si and Cr₃Ni₂Si were identified. A pptd. zone which exists between the
 reaction products and IN-738 works as a diffusion barrier, the reactive elements
 of IN-738 seem to be almost blocked from contributing to the formation of Cr₃Si,
 Ni₃Si₂, .delta.-Ni₂Si, and Cr₃Ni₂Si. The phenomenon of morphol. instability was
 also explained by Wagner's model. The faceted phases Cr₃Ni₂Si and .delta.-Ni₂Si
 showed an epitaxial growth along with the Si₃N₄ matrix.

IT 12059-14-2, Nickel silicide Ni₂Si

(interface reaction products; reaction products at the interface of
 diffusion-bonded Ni alloy/Si₃N₄ ceramic joint)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 12773-70-5, IN-738

(reaction products at the interface of diffusion-bonded Ni
 alloy/Si₃N₄ ceramic joint)

RN 12773-70-5 HCAPLUS

CN Nickel alloy, base, Ni 58-63, Cr 16, Co 8-9, Al 3.2-3.7, Ti 3.2-3.7, W
 2.4-2.8, Mo 1.5-2, Ta 1.5-2, Nb 0.6-1.1, Cu 0-0.5, Fe 0-0.5, Si 0-0.5, C
 0-0.2, Mn 0-0.2, Zr 0-0.1 (IN 738) (CA INDEX NAME)

Component	Component Percent		Component Registry Number
=====+=====+=====			
Ni	58	- 63	7440-02-0
Cr	16		7440-47-3
Co	8	- 9	7440-48-4
Al	3.2	- 3.7	7429-90-5
Ti	3.2	- 3.7	7440-32-6
W	2.4	- 2.8	7440-33-7
Mo	1.5	- 2	7439-98-7
Ta	1.5	- 2	7440-25-7
Nb	0.6	- 1.1	7440-03-1
Cu	0	- 0.5	7440-50-8
Fe	0	- 0.5	7439-89-6
Si	0	- 0.5	7440-21-3
C	0	- 0.2	7440-44-0
Mn	0	- 0.2	7439-96-5
Zr	0	- 0.1	7440-67-7

CC 57-2 (Ceramics)

Section cross-reference(s): 56

IT 11074-83-2, Nickel silicide Ni₃Si₁₂ 12018-36-9, Chromium silicide
Cr₃Si 12059-14-2, Nickel silicide Ni₂Si 176373-80-1,
Chromium nickel silicide (Cr₃Ni₂Si)

(interface reaction products; reaction products at the interface of
diffusion-bonded Ni alloy/Si₃N₄ ceramic joint)

IT 12773-70-5, IN-738

(reaction products at the interface of diffusion-bonded Ni
alloy/Si₃N₄ ceramic joint)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS
RECORD (2 CITINGS)

L29 ANSWER 28 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 1994:514848 HCAPLUS Full-text

DOCUMENT NUMBER: 121:114848

ORIGINAL REFERENCE NO.: 121:20645a,20648a

TITLE: Problems of boronizing nickel-base alloys

AUTHOR(S): Hunger, Hans Joerg; Trute, Gerhard

CORPORATE SOURCE: Elektroschmelzwerk Kempten G.m.b.H., Kempten,
Germany

SOURCE: HTM, Haertereitechnische Mitteilungen (1994),
49(3), 215-18

CODEN: HTMMD5; ISSN: 0341-101X

DOCUMENT TYPE: Journal

LANGUAGE: German

ED Entered STN: 03 Sep 1994

AB Surface hardening of steels with the aid of com. EKabor boronizing agent is a
thermochem. B diffusion process that has been practiced successfully for many
years. However, when the process is used for Ni-based alloys, the resultant layer
is of substandard quality. Expts. and thermodyn. calcns. of the reaction processes
involved show that 2 competing processes occur during boronizing, namely boronizing
and siliconizing. The temp. at which treatment is carried out and the Ni content
of the base material det. which of these processes is more likely to occur. The
formation of Ni₂Si and Ni₃Si is due to the compn. of the boronizing powder. Perfect

boride layers can be produced on Ni-based alloys if the boronizing powder does not contain Si.

IT 12766-43-7, Incoloy 825 37301-85-2, Alloy 20
(boronizing of, with Ekabor, silicide formation in)
RN 12766-43-7 HCAPLUS
CN Nickel alloy, base, Ni 38.0-46.0, Fe 22.0-34, Cr 19.5-23.5, Mo 2.5-3.5, Cu 1.5-3.0, Ti 0.6-1.2, Mn 0-1.0, Si 0-0.5, Al 0-0.2, C 0-0.05, S 0-0.03 (UNS N08825) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Ni	38.0 - 46.0	7440-02-0
Fe	22.0 - 34	7439-89-6
Cr	19.5 - 23.5	7440-47-3
Mo	2.5 - 3.5	7439-98-7
Cu	1.5 - 3.0	7440-50-8
Ti	0.6 - 1.2	7440-32-6
Mn	0 - 1.0	7439-96-5
Si	0 - 0.5	7440-21-3
Al	0 - 0.2	7429-90-5
C	0 - 0.05	7440-44-0
S	0 - 0.03	7704-34-9

RN 37301-85-2 HCAPLUS
CN Iron alloy, base, Fe 30-44, Ni 32.00-38.00, Cr 19.00-21.00, Cu 3.00-4.00, Mo 2.00-3.00, Mn 0-2.00, Nb 0-1.00, Si 0-1.00, C 0-0.07, P 0-0.045, S 0-0.035 (UNS N08020) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	30 - 44	7439-89-6
Ni	32.00 - 38.00	7440-02-0
Cr	19.00 - 21.00	7440-47-3
Cu	3.00 - 4.00	7440-50-8
Mo	2.00 - 3.00	7439-98-7
Mn	0 - 2.00	7439-96-5
Nb	0 - 1.00	7440-03-1
Si	0 - 1.00	7440-21-3
C	0 - 0.07	7440-44-0
P	0 - 0.045	7723-14-0
S	0 - 0.035	7704-34-9

IT 12059-14-2P, Nickel silicide (Ni₂Si)
(formation of, in boronizing of nickel alloys with ekabor)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 56-7 (Nonferrous Metals and Alloys)

IT 11107-04-3, DIN 1.4401 12671-82-8, DIN 1.4944 12766-43-7
, Incoloy 825 37268-89-6, X15CrNiSi25-20 37301-85-2,
Alloy 20

(boronizing of, with Ekabor, silicide formation in)

IT 12059-14-2P, Nickel silicide (Ni₂Si) 12059-22-2P, Nickel

silicide (Ni₃Si)
 (formation of, in boronizing of nickel alloys with ekabor)
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

L29 ANSWER 29 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 1994:170878 HCAPLUS Full-text
 DOCUMENT NUMBER: 120:170878
 ORIGINAL REFERENCE NO.: 120:30067a,30070a
 TITLE: Precipitation effects during hot deformation of a
 copper alloy
 AUTHOR(S): Blaz, L.; Evangelista, E.; Niewczas, M.
 CORPORATE SOURCE: Dep. Struct. Mech. Solids, Acad. Min. Metall.,
 Krakow, 30-059, Pol.
 SOURCE: Metallurgical and Materials Transactions A:
 Physical Metallurgy and Materials Science
 (1994), 25A(2), 257-66
 CODEN: MMTAEB; ISSN: 1073-5623
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 02 Apr 1994
 AB Hot compression tests were performed on a previously soln.-treated
 Cu-3Ni-1Si-0.8Cr-0.1 wt.% Mg alloy below the solvus temp. The effects of pptn.
 occurring during hot deformation and the accompanying flow stresses were analyzed
 on the basis of microstructural evolution using optical, scanning, and transmission
 electron microscopy, and microhardness measurements. The hardening stage was
 followed by strain-induced localized Ni₂Si-ppt. coarsening at the temp. related
 to the most effective dynamic pptn. Intensive coarsening of ppts. began at grain
 boundaries. Very fine Ni₂Si ppts. were transformed into elongated particles at
 grain boundaries, producing flow localization, softening, and finally sample
 fracture.
 IT 146955-72-8
 (hot compression of, strain-induced ppt. coarsening in)
 RN 146955-72-8 HCAPLUS
 CN Copper alloy, base, Cu 95,Ni 3,Si 1,Cr 0.8,Mg 0.1 (9CI) (CA INDEX
 NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3	7440-02-0
Si	1	7440-21-3
Cr	0.8	7440-47-3
Mg	0.1	7439-95-4

IT 12059-14-2, Nickel silicide Ni₂Si
 (ppts. in copper alloy, strain-induced elongation of, in hot
 deformation)
 RN 12059-14-2 HCAPLUS
 CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 56-12 (Nonferrous Metals and Alloys)

IT 146955-72-8
 (hot compression of, strain-induced ppt. coarsening in)

IT 12059-14-2, Nickel silicide Ni₂Si
 (ppts. in copper alloy, strain-induced elongation of, in hot
 deformation)
 OS.CITING REF COUNT: 14 THERE ARE 14 CAPLUS RECORDS THAT CITE THIS
 RECORD (14 CITINGS)

L29 ANSWER 30 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 1994:169639 HCAPLUS Full-text
 DOCUMENT NUMBER: 120:169639
 ORIGINAL REFERENCE NO.: 120:29871a,29874a
 TITLE: Development of an optimal process for gas-flame
 spraying of self-fluxing materials
 AUTHOR(S): Bykov, V. I.; Kulikov, A. S.; Gubar, E. Ya.;
 Gnatenko, D. I.; Chastokolenko, P. P.
 CORPORATE SOURCE: Cherk. Inzh.-Tekhnol. Inst., Cherkassy, Russia
 SOURCE: Vestnik Mashinostroeniya (1993), (7), 35-7
 CODEN: VMASAV; ISSN: 0042-4633
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

ED Entered STN: 02 Apr 1994

AB The math. design of expts. was used in derivation of the adequate equation of
 regression which relates the regime parameters with the coating properties. The
 equation is instrumental in predicting the quality of coating. The optimization
 of the coating process ensures the high quality coatings manufd. by gas-flame
 spraying followed by high frequency current fusion.

IT 12718-23-9P, 18KhGT, preparation
 (gas-flame spraying of, optimal process for)

RN 12718-23-9 HCAPLUS

CN Iron alloy, base, Fe 96-98,Cr 1.00-1.30,Mn 0.80-1.10,Si 0.17-0.37,Cu
 0-0.30,Ni 0-0.30,C 0.17-0.23,Ti 0.03-0.09,P 0-0.035,S 0-0.035 (18KhGT)
 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	96 - 98	7439-89-6
Cr	1.00 - 1.30	7440-47-3
Mn	0.80 - 1.10	7439-96-5
Si	0.17 - 0.37	7440-21-3
Cu	0 - 0.30	7440-50-8
Ni	0 - 0.30	7440-02-0
C	0.17 - 0.23	7440-44-0
Ti	0.03 - 0.09	7440-32-6
P	0 - 0.035	7723-14-0
S	0 - 0.035	7704-34-9

IT 12059-14-2, Nickel silicide (Ni₂Si)
 (powder consisting of, for gas-flame spraying of steel)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 55-6 (Ferrous Metals and Alloys)

IT 12718-23-9P, 18KhGT, preparation 37268-90-9P, Steel 45,
 preparation 72645-39-7, Sch20
 (gas-flame spraying of, optimal process for)

IT 12006-79-0, Chromium boride (CrB) 12017-11-7, Cobalt silicide (CoSi)
 12059-14-2, Nickel silicide (Ni2Si) 12070-12-1, Tungsten
 carbide (WC) 12105-81-6, Chromium carbide (Cr23C6)
 (powder consisting of, for gas-flame spraying of steel)

L29 ANSWER 31 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 1992:179302 HCAPLUS Full-text
 DOCUMENT NUMBER: 116:179302
 ORIGINAL REFERENCE NO.: 116:30249a,30252a
 TITLE: Melt quenching of copper alloys in strip
 manufacture for electric apparatus
 INVENTOR(S): Hashizume, Kimio; Kitakaze, Keizo; Itou, Takefumi
 PATENT ASSIGNEE(S): Mitsubishi Electric Corp., Japan
 SOURCE: U.S., 6 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
US 5064611	A	19911112	US 1991-642353	19910117
			<--	
JP 04009253	A	19920114	JP 1990-108641	19900426
			<--	
PRIORITY APPLN. INFO.:			JP 1990-108641	A 19900426
			<--	

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 03 May 1992
 AB Molten Cu alloys (contg. Ni 1.0-8, P 0.1-0.8, Si 0.06-1.0, and optionally 0.03-0.5% Zn) are quenched at 102-105.degree./s to manuf. a strip having finely dispersed intermetallic compds. (esp. Ni5P2 and Ni2Si). The alloy strip shows uniform etching, formability, and coating, and is suitable for manuf. of elec. connectors, lead frames, and similar parts for elec. app. or integrated circuits. Thus, the molten Cu-1.48 Ni-0.19 P-0.12% Si alloy was quenched at 2.0 .times. 103.degree./s to manuf. a strip 2.0 mm thick, and the strip was cold rolled to 0.25 mm thickness with intermediate annealing and aging. The finished strip showed elec. cond. of 65.3% of Cu std., tensile strength 65.7 kg/mm2, and solder coating stability of >500 h at 150.degree.. The strip formability was better than that of the same alloy cooled at 10.degree./s.

IT 12059-14-2, Nickel silicide (Ni2Si)
 (copper alloys contg. pptd., melt quenched strip of, for elec. app. and integrated circuit parts)
 RN 12059-14-2 HCAPLUS
 CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 140634-56-6
 (formability of melt-quenched strip of, for elec. app. and integrated circuit parts)
 RN 140634-56-6 HCAPLUS
 CN Copper alloy, base, Cu 95, Ni 3.9, Si 0.7, P 0.2, Zn 0.2 (9CI) (CA INDEX NAME)

Component Component Component

	Percent	Registry Number
Cu	95	7440-50-8
Ni	3.9	7440-02-0
Si	0.7	7440-21-3
P	0.2	7723-14-0
Zn	0.2	7440-66-6

INCL 420481000

IPCI C22C0001-00 [ICM,5]; C22C0009-04 [ICS,5]; C22C0009-06 [ICS,5];
C22C0009-10 [ICS,5]

IPCR B22D0011-06 [I,A]; B22D0011-00 [I,A]; C22C0009-06 [I,A]

NCL 420/481.000; 420/485.000

CC 56-11 (Nonferrous Metals and Alloys)

Section cross-reference(s): 76

IT 11103-55-2, Nickel phosphide (Ni₅P₂) 12059-14-2, Nickel
silicide (Ni₂Si)(copper alloys contg. pptd., melt quenched strip of, for elec. app.
and integrated circuit parts)IT 124913-59-3 124913-60-6 132675-82-2 140634-55-5
~~140634-56-6~~(formability of melt-quenched strip of, for elec. app. and
integrated circuit parts)REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L29 ANSWER 32 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 1992:157009 HCAPLUS Full-text

DOCUMENT NUMBER: 116:157009

ORIGINAL REFERENCE NO.: 116:26469a,26472a

TITLE: Heat treatment of copper alloys for molding of
plastics

INVENTOR(S): Miyato, Motohisa; Hosokawa, Isao

PATENT ASSIGNEE(S): Kobe Steel, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03247744	A	19911105	JP 1990-43526	19900223

<--

PRIORITY APPLN. INFO.: JP 1990-43526 19900223

<--

ED Entered STN: 17 Apr 1992

AB Cu alloy ingots contg. Ni 0.4-4.0, Si 0.1-1.0, Zn 0.05-1.0, Mg 0.001-<0.01, Mn 0.005-0.2, and Cr, Ti, and/or Zr 0.001-<0.01% are heated for .gtoreq.30 min at .gtoreq.900.degree., hot worked, heated for 5 min-3 h at 650-810.degree., cooled from .gtoreq.600.degree. at 15.degree./s, and annealed for 5 min-4 h at 400-550.degree. to give alloys for molding plastics. Ni₂Si ppts. formed in the alloys have small particle size, and molds giving smooth-surfaced mirror-polished plastics are obtained.

IT 12059-14-2, Nickel silicide (Ni₂Si) 108000-85-7
 122330-19-2
 (for molds for plastics)
 RN 12059-14-2 HCAPLUS
 CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 108000-85-7 HCAPLUS
 CN Copper alloy, base, Cu 96, Ni 3.2, Si 0.7, Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3.2	7440-02-0
Si	0.7	7440-21-3
Zn	0.3	7440-66-6

RN 122330-19-2 HCAPLUS
 CN Copper alloy, base, Cu 98, Ni 1.6, Si 0.4, Zn 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	98	7440-50-8
Ni	1.6	7440-02-0
Si	0.4	7440-21-3
Zn	0.2	7440-66-6

IPCI C22F0001-08 [ICM,5]; B29C0033-38 [ICS,5]; C22C0009-06 [ICA,5]
 IPCR C22F0001-08 [I,A]; B29C0033-38 [I,A]; C22C0009-06 [I,A]; C22F0001-00
 [I,A]

CC 56-5 (Nonferrous Metals and Alloys)
 Section cross-reference(s): 38

IT 12059-14-2, Nickel silicide (Ni₂Si) 108000-85-7
 122330-19-2
 (for molds for plastics)

L29 ANSWER 33 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 1989:558757 HCAPLUS Full-text

DOCUMENT NUMBER: 111:158757

ORIGINAL REFERENCE NO.: 111:26407a,26410a

TITLE: Formation of silicon diffusion coatings on metal articles

INVENTOR(S): Cabrera, Alejandro L.; Kirner, John F.; Miller, Robert A.; Pierantozzi, Ronald; Armor, John N.

PATENT ASSIGNEE(S): Air Products and Chemicals, Inc., USA

SOURCE: U.S., 15 pp. Cont.-in-part of U.S. 4,714,632.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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12/421,128

US 4822642	A	19890418	US 1987-119593	19871112
			<--	
US 4714632	A	19871222	US 1985-807890	19851211
			<--	
DK 8605922	A	19870612	DK 1986-5922	19861210
			<--	
ZA 8609325	A	19880831	ZA 1986-9325	19861210
			<--	
JP 62151554	A	19870706	JP 1986-295679	19861211
			<--	
JP 63019589	B	19880423		
CN 86108935	A	19870729	CN 1986-108935	19861211
			<--	
BR 8606145	A	19870922	BR 1986-6145	19861211
			<--	
PRIORITY APPLN. INFO.:			US 1985-807890	A2 19851211
			<--	

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 28 Oct 1989

AB Metal articles are siliconized in an SiH₄ atm. contg. H and optionally an inert gas. The metal parts are pretreated in dry H at .ltoreq.1200.degree. to reduce oxide films that may act as a barrier to diffusion, siliconized at 350-1000.degree., and optionally heated in an oxidizing atm. to overlay a SiO₂ film. Thus, a Cu strip was preheated in dry H (dew point below -60.degree.) for 0.5 h at 500.degree., and siliconized at 350-500.degree. for 2 h in H-0.1 vol.% SiH₄ gas mixt. A siliconized layer (1.7-9.3 .mu.m) was formed that showed the Cu:Si ratio of .apprx.3:1 and an oxidn. resistance in air at 700.degree. of .apprx.60 times higher than the bare Cu.

IT 12059-14-2P, Nickel silicide (Ni₂Si)
(formation of, in siliconizing metal)
RN 12059-14-2 HCAPLUS
CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 12606-02-9, Inconel 600 61608-60-4, Hastelloy
B-2
(siliconizing of, in silane atm.)

RN 12606-02-9 HCAPLUS
CN Nickel alloy, base, Ni 72.0-80,Cr 14.0-17.0,Fe 6.0-10.0,Mn 0-1.0,Cu 0-0.5,Si 0-0.5,C 0-0.15,S 0-0.015 (UNS N06600) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Ni	72.0 - 80	7440-02-0
Cr	14.0 - 17.0	7440-47-3
Fe	6.0 - 10.0	7439-89-6
Mn	0 - 1.0	7439-96-5
Cu	0 - 0.5	7440-50-8
Si	0 - 0.5	7440-21-3
C	0 - 0.15	7440-44-0
S	0 - 0.015	7704-34-9

RN 61608-60-4 HCAPLUS
CN Nickel alloy, base, Ni 65-74,Mo 26.0-30.0,Fe 0-2.0,Co 0-1.0,Cr 0-1.0,Mn 0-1.0,W 0-1.0,Cu 0-0.50,Si 0-0.10,P 0-0.04,S 0-0.03,C 0-0.02

(UNS N10665) (CA INDEX NAME)

Component	Component Percent			Component Registry Number
=====+=====+=====				
Ni	65	-	74	7440-02-0
Mo	26.0	-	30.0	7439-98-7
Fe	0	-	2.0	7439-89-6
Co	0	-	1.0	7440-48-4
Cr	0	-	1.0	7440-47-3
Mn	0	-	1.0	7439-96-5
W	0	-	1.0	7440-33-7
Cu	0	-	0.50	7440-50-8
Si	0	-	0.10	7440-21-3
P	0	-	0.04	7723-14-0
S	0	-	0.03	7704-34-9
C	0	-	0.02	7440-44-0

INCL 427255100

IPCI C23C0016-24 [ICM,4]

IPCR C23C0010-02 [I,A]; C23C0010-08 [I,A]; C23C0010-60 [I,A]

NCL 427/255.260; 427/255.180; 427/255.370; 427/255.400; 427/318.000;
427/343.000

CC 56-7 (Nonferrous Metals and Alloys)

IT 11133-70-3P, Platinum silicide (Pt3Si) 12017-11-7P, Cobalt silicide (CoSi) 12018-09-6P, Chromium silicide (CrSi2) 12022-95-6P, Iron silicide (FeSi) 12023-54-0P, Iron silicide (Fe3Si) 12033-37-3P, Molybdenum silicide (Mo3Si) 12039-76-8P, Vanadium silicide (V3Si) 12039-88-2P, Tungsten silicide (WSi2) 12059-14-2P, Nickel silicide (Ni2Si) 12136-78-6P, Molybdenum silicide (MoSi2) 12137-83-6P, Platinum silicide (PtSi) 12137-86-9P, Platinum silicide (Pt2Si)

(formation of, in siliconizing metal)

IT 12604-41-0, A182F9 12606-02-3, Inconel 600 12671-80-6,
AISI 302 12675-89-7 12725-29-0, AISI 310 61608-60-4,
Hastelloy B-2

(siliconizing of, in silane atm.)

OS.CITING REF COUNT: 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS
RECORD (7 CITINGS)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE
RE FORMAT

L29 ANSWER 34 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 1989:217586 HCAPLUS Full-text

DOCUMENT NUMBER: 110:217586

ORIGINAL REFERENCE NO.: 110:36043a,36046a

TITLE: Copper alloy for ingot casting for electric or electronic parts

INVENTOR(S): Miyato, Motohisa; Nakajima, Yasuhiro; Saito, Akitoshi; Watari, Masato

PATENT ASSIGNEE(S): Kobe Steel, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 63247320	A	19881014	JP 1987-82040	19870402
			<--	
JP 04038828	B	19920625		
PRIORITY APPLN. INFO.:			JP 1987-82040	19870402
			<--	

ED Entered STN: 10 Jun 1989

AB The title parts, e.g., lead frames, are made of a high-strength Cu alloy of high elec. cond. and contg. Ni 1.0-3.5; Si 0.2-0.9; Zn 0.1-5.0; Sn (optional) 0.1-2.0; and Mg, Cr, Zr, and/or Ti 0.001-0.01%. The alloy is cast by suppressing the amt. of Ni₂Si ppts. in ingots at .1 to req. 0.1% to prevent edge cracking in subsequent hot rolling. Thus, molten Cu alloy contg. Ni 3.21, Si 0.71, Zn 0.30, and Mg 0.005% was semicontinuously cast into an ingot, which was water cooled at 600.degree./min and then hot rolled. The strip product contg. 0.04% Ni₂Si showed no edge cracking vs. cracking when the the amt. of Ni₂Si ppts. was 0.15-0.22%.

IT 108000-85-7, Copper 96, nickel 3.2, silicon 0.7, zinc 0.3
115674-61-8, Copper 95, nickel 3.2, silicon 0.7, tin 1.2, zinc 0.3

(casting of, suppression of nickel sulfide pptn. in, for hot rolling without cracking)

RN 108000-85-7 HCAPLUS

CN Copper alloy, base, Cu 96, Ni 3.2, Si 0.7, Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+	=====+	=====+
Cu	96	7440-50-8
Ni	3.2	7440-02-0
Si	0.7	7440-21-3
Zn	0.3	7440-66-6

RN 115674-61-8 HCAPLUS

CN Copper alloy, base, Cu 95, Ni 3.2, Sn 1.2, Si 0.7, Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+	=====+	=====+
Cu	95	7440-50-8
Ni	3.2	7440-02-0
Sn	1.2	7440-31-5
Si	0.7	7440-21-3
Zn	0.3	7440-66-6

IT 12059-14-2, Nickel silicide (Ni₂Si)
(prevention of pptn. of, in casting of copper alloys, for hot rolling without cracking)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IPCI C22C0001-02 [ICM,4]; B22D0027-04 [ICA,4]

IPCR B22D0027-04 [I,A]; C22C0001-02 [I,A]; C22C0009-06 [I,A]; H01B0001-02

[I,A]; H01L0023-48 [I,A]
 CC 56-3 (Nonferrous Metals and Alloys)
 Section cross-reference(s): 76
 IT 108000-85-7, Copper 96, nickel 3.2, silicon 0.7, zinc 0.3
 115674-61-8, Copper 95, nickel 3.2, silicon 0.7, tin 1.2, zinc
 0.3
 (casting of, suppression of nickel sulfide pptn. in, for hot
 rolling without cracking)
 IT 12059-14-2, Nickel silicide (Ni₂Si)
 (prevention of pptn. of, in casting of copper alloys, for hot
 rolling without cracking)
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

L29 ANSWER 35 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 1985:189129 HCAPLUS Full-text
 DOCUMENT NUMBER: 102:189129
 ORIGINAL REFERENCE NO.: 102:29637a,29640a
 TITLE: Effect of chromium on the structure and properties
 of a copper-nickel-silicon alloy
 AUTHOR(S): Spaic, Savo; Marinkovic, Velibor; Klemencic, Anton
 CORPORATE SOURCE: FNT Montanistika, Ljubljana, 61000, Yugoslavia
 SOURCE: Rudarsko-Metalurski Zbornik (1984), 31(3-4),
 377-88
 CODEN: RMZBAR; ISSN: 0035-9645
 DOCUMENT TYPE: Journal
 LANGUAGE: Slovenian

ED Entered STN: 02 Jun 1985

AB The solidification of cast and mech. and elec. properties and microstructures of
 as-cast and thermomech. treated Cu alloys contg. Ni 0.75-2.46, Si 0.50-1.48, Cr
 .ltoreq.0.78, and Fe .ltoreq.0.75% were studied by DTA, optical microscopy, TEM,
 electron microanal., and x-ray and electron diffraction. The Cr addn. strongly
 affects the microstructure of Cu-Ni-Si alloys; .delta.-Ni₂Si, Cr₃Si, and
 Cr_{6.5}Ni_{2.5} are present, and the max. solid soln. of Ni₂Si in .alpha.-phase is
 decreased due to Cu-Ni₂Si quasibinary section. The main consequences of these
 effects are improved thermal stability and higher elec. cond. of Cu-Ni-Si-Cr alloys
 as compared to Cu-Ni-Si alloys.

IT 12059-14-2P
 (formation of, in copper alloys)
 RN 12059-14-2 HCAPLUS
 CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 96033-62-4 96340-42-0
 (solidification and properties of)
 RN 96033-62-4 HCAPLUS
 CN Copper alloy, base, Cu 95-98, Ni 1.3-2.5, Si 0.5-1.5, Cr 0.2-0.8 (9CI)
 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95 - 98	7440-50-8
Ni	1.3 - 2.5	7440-02-0
Si	0.5 - 1.5	7440-21-3
Cr	0.2 - 0.8	7440-47-3

RN 96340-42-0 HCAPLUS
 CN Copper alloy, base, Cu 97-98, Ni 0.8-1.3, Si 0.5-0.8, Fe 0.1-0.8, Cr 0.3
 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97 - 98	7440-50-8
Ni	0.8 - 1.3	7440-02-0
Si	0.5 - 0.8	7440-21-3
Fe	0.1 - 0.8	7439-89-6
Cr	0.3	7440-47-3

CC 56-8 (Nonferrous Metals and Alloys)

Section cross-reference(s): 76

IT 12018-36-9P 12059-14-2P 66590-84-9P

(formation of, in copper alloys)

IT 96033-62-4 96340-42-0

(solidification and properties of)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

L29 ANSWER 36 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 1985:189030 HCAPLUS Full-text

DOCUMENT NUMBER: 102:189030

ORIGINAL REFERENCE NO.: 102:29625a, 29628a

TITLE: Effect of chemical and phase composition on the
 structure and properties of heat-resistant
 silicide-strengthened copper alloys

AUTHOR(S): Nikolaev, A. K.; Pruzhinin, I. F.; Revina, N. I.;
 Rozenberg, V. M.

CORPORATE SOURCE: USSR

SOURCE: Splavy Tugoplavkikh Redk. Met. Rab. Vys. Temp.,
 [Mater. - Vses. Soveshch. Fiz.-Khim. Osn.
 Sozdaniya Zharoprochn. Met. Mater.] (1984),
 Meeting Date 1981, 181-5. Editor(s): Savitskii,
 E. M.; Povarova, K. B. Nauka: Moscow, USSR.
 CODEN: 53KUAQ

DOCUMENT TYPE: Conference; General Review

LANGUAGE: Russian

ED Entered STN: 02 Jun 1985

AB In a review with 7 refs., properties and microstructure of silicide-strengthened
 Cu alloys are discussed, esp. Cu-Co-Si and Cu-Ni-Si alloys in which Co₂Si and Ni₃
 Si are formed. Cu-Co-Si-Cr and Cu-Ni-Si-Cr alloys and formation of Cr₃Si and
 Cr₃Co₅Si₂ are also considered.

IT 12059-14-2P

(formation of, in copper alloy for strengthening)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 76762-43-1

(microstructure and properties of silicide-strengthened)

RN 76762-43-1 HCAPLUS

CN Copper alloy, base, Cu, Cr, Ni, Si (CA INDEX NAME)

Component	Component Registry Number
Cu	7440-50-8
Cr	7440-47-3
Ni	7440-02-0
Si	7440-21-3

CC 56-0 (Nonferrous Metals and Alloys)

IT 12018-36-9P 12059-14-2P 12134-03-1P 66588-52-1P

(formation of, in copper alloy for strengthening)

IT 39376-68-6 72373-10-5 76762-43-1 96340-83-9

(microstructure and properties of silicide-strengthened)

L29 ANSWER 37 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 1981:107795 HCAPLUS Full-text

DOCUMENT NUMBER: 94:107795

ORIGINAL REFERENCE NO.: 94:17559a,17562a

TITLE: Effect of composition on the structure and properties of copper-nickel-silicon system alloys

AUTHOR(S): Nikolaev, A. K.; Pruzhinin, I. F.; Revina, N. I.; Rozernberg, V. M.

CORPORATE SOURCE: USSR

SOURCE: Nauch. Tr. Gos. N.-I. i Proekt. In-t Splavov i Obrab. Tsvet. Met. (1980), (64), 30-6
From: Ref. Zh., Metall. 1980, Abstr. No. 12I713

DOCUMENT TYPE: Journal

LANGUAGE: Russian

ED Entered STN: 12 May 1984

AB Title only translated.

IT 12059-14-2

(in copper-nickel-silicon alloys, mech. and structural properties in relation to)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 76762-43-1

(mech. properties of, compn. effect on structure and)

RN 76762-43-1 HCAPLUS

CN Copper alloy, base, Cu,Cr,Ni,Si (CA INDEX NAME)

Component	Component Registry Number
Cu	7440-50-8
Cr	7440-47-3
Ni	7440-02-0
Si	7440-21-3

CC 56-7 (Nonferrous Metals and Alloys)

Section cross-reference(s): 76

IT 12059-14-2

(in copper-nickel-silicon alloys, mech. and structural properties in relation to)

IT 39376-68-6 76762-43-1
(mech. properties of, compn. effect on structure and)

L29 ANSWER 38 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 1980:643960 HCAPLUS Full-text
 DOCUMENT NUMBER: 93:243960
 ORIGINAL REFERENCE NO.: 93:39033a,39036a
 TITLE: Change of the structure of a
 copper-nickel-aluminum-silicon-chromium alloy
 during aging
 AUTHOR(S): Teplitskii, M. D.; Iedlinskaya, Z. M.; Chernikova,
 A. V.
 CORPORATE SOURCE: USSR
 SOURCE: Nauch. Tr. Gos. N.-i. i Proekt. In-t Splavov i
 Obrab. Tsvet. Met. (1980), (61), 60-6
 From: Ref. Zh., Metall. 1980, Abstr. No. 8I263
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 ED Entered STN: 12 May 1984
 AB Title only translated.
 IT 75789-67-2
 (aging of, ppt. during)
 RN 75789-67-2 HCAPLUS
 CN Copper alloy, base, Cu 83,Ni 12,Al 2.7,Cr 0.9,Si 0.9 (9CI) (CA INDEX
 NAME)

Component	Component Percent	Component Registry Number
Cu	83	7440-50-8
Ni	12	7440-02-0
Al	2.7	7429-90-5
Cr	0.9	7440-47-3
Si	0.9	7440-21-3

IT 12059-14-2
(dispersion of, in aluminum alloy aging)
 RN 12059-14-2 HCAPLUS
 CN Nickel silicide (Ni2Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 56-6 (Nonferrous Metals and Alloys)
 IT 75789-67-2
 (aging of, ppt. during)
 IT 7440-47-3, uses and miscellaneous 12059-14-2
 (dispersion of, in aluminum alloy aging)

L29 ANSWER 39 OF 39 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 1977:144352 HCAPLUS Full-text
 DOCUMENT NUMBER: 86:144352
 ORIGINAL REFERENCE NO.: 86:22641a,22644a
 TITLE: Study of the properties of bronze Br.KN 1-3
 affecting its weldability
 AUTHOR(S): Dzhevaga, I. I.; Rychka, P. A.
 CORPORATE SOURCE: USSR
 SOURCE: Trudy Nikolaevskogo Korablestroitel'nogo Instituta

(1974), 80, 52-7

CODEN: TRNKBI; ISSN: 0372-1256

DOCUMENT TYPE: Journal

LANGUAGE: Russian

ED Entered STN: 12 May 1984

AB The bronze [61431-67-2] (contg. Si 1, Ni 3-3.3, Mn 0.25, Sn 0.03-0.1, Pb 0.014, and Fe 0.1%) is difficult to weld, and crack formation occurs during welding caused by a sharp decrease of the plasticity at 400-600.degree.; the elongation per unit length (.delta.) decreased to .apprx.1%. The weldability of the bronze is improved by hardening at 850.degree. prior to welding, but the strength decreases and .delta. increases to .apprx.30%. The initial mech. properties of the welded joints were restored after tempering at 500.degree., due to the pptn. strengthening by Ni₂Si [12059-14-2]. The mech. properties of the forged or rolled billets are anisotropic, whereas both .delta. and tensile strength decrease towards the center of the casting.

IT 12059-14-2

(pptn. of, in bronze, weldability in relation to)

RN 12059-14-2 HCAPLUS

CN Nickel silicide (Ni₂Si) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 61431-67-2

(welding of, tempering effect on mech. properties in relation to)

RN 61431-67-2 HCAPLUS

CN Copper alloy, base, Cu 95-97, Ni 2.4-3.4, Si 0.6-1.1, Mn 0.1-0.4, Sn 0-0.1, Zn 0-0.1 (BrKN1-3) (CA INDEX NAME)

Component	Component Percent			Component Registry Number
=====+=====+=====				
Cu	95	-	97	7440-50-8
Ni	2.4	-	3.4	7440-02-0
Si	0.6	-	1.1	7440-21-3
Mn	0.1	-	0.4	7439-96-5
Sn	0	-	0.1	7440-31-5
Zn	0	-	0.1	7440-66-6

CC 56-9 (Nonferrous Metals and Alloys)

IT 12059-14-2

(pptn. of, in bronze, weldability in relation to)

IT 61431-67-2

(welding of, tempering effect on mech. properties in relation to)

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L3          44 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  (CU(L)NI(L)SI(L)M
              G(L)SN(L)ZN(L)AG(L)CR)/ELS
L6          46 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L3
L10         143853 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ANNEALING+PFT,NT/C
              T
L11         34829 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  "ROLLING (METALS) "
              +PFT,NT/CT
L12         12 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L6 AND (L10 OR
              L11)
L13         16 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L6 AND  (PEP OR
              PROC)/RL
L20         80304 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  (CU(L)NI(L)SI)/EL
              S
L21         63949 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L20 AND (MG OR
              SN OR ZN OR AG OR CR)/ELS
L23         109669 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L21
L30         QUE SPE=ON  ABB=ON  PLU=ON  HEAT? OR WARM? OR HOT# OR CA
              LEFACT? OR TORREFACT? OR PYROL? OR SINTER? OR CALCIN? OR
              AUTOCLAV? OR THERMOL? OR THERMAL? OR TEPEFACT? OR PREHEAT
              ? OR MELT? OR FUSE# OR FUSING# OR FUSION? OR (HIGH## OR H
              EIGHTEN? OR RAIS? OR INCREAS? OR ELEVAT?) (2A) (TEMP# OR TE
              MPERATUR?)
L32         2500 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L23 AND L10
L33         719 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L32 AND L11
L34         591 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L30 AND L33
L35         530 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L34 AND PROC/RL
L37         275044 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  "HEAT TREATMENT"+P
              FT,NT/CT
L38         530 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L35 AND L37
L39         530 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L38 AND PEP/RL
L40         62 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L39 AND ELECTRIC?

L43         27448 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  "ELECTRIC
              APPARATUS"/CT
L44         7 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L40 AND L43
L45         7 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L39 AND L43
L46         171 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L23 AND L43
L47         31 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L46 AND L37
L48         24 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L47 AND PROC/RL
L49         21 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L48 AND (L10 OR
              L11)
L50         21 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L44 OR L45) OR
              L49
L51         10 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L50 AND (1802-2007
              )/PRY,AY,PY
L52         11 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L12 OR L13) AND
              (1802-2007)/PRY,AY,PY
L53         18 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L51 OR L52

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=> d 153 1-18 ibib ed abs hitstr hitind

L53 ANSWER 1 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2009:52666 HCAPLUS Full-text
 DOCUMENT NUMBER: 150:111954
 TITLE: Manufacture of high-strength copper alloys for
~~electric~~/electronic parts
 INVENTOR(S): Nomoto, Noriyuki; Takano, Yasuo
 PATENT ASSIGNEE(S): Hitachi Cable, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2009007625	A	20090115	JP 2007-169852	20070628
			<--	
PRIORITY APPLN. INFO.:			JP 2007-169852	20070628
			<--	

ED Entered STN: 15 Jan 2009

AB In the title process, Cu base alloys contg. Ni 1.0-4.0, Si 0.2-1.2, and optionally
 P, Zn, Sn, Mg, Fe, Co, Mn, Zr, Ti, Cr, and/or Ag <2.0 wt.% (as total) are cast,
~~hot~~-rolled (after retained at 800-950.degree. for .gtoreq.30 min), cold rolled at
 redn. .gtoreq.15%, tempered at 300-500.degree. for 30 min to 24 h, subjected to
 final cold rolling, and annealed at 300-550.degree. for 30 s to 3 min to eliminate
 distortion, wherein change of hardness after the tempering and after the final cold
 rolling is regulated to .ltoreq.10%. The given Cu alloys have low dimensional
 change when ~~heated~~ and are useful for lead frames connectors, etc.

IT 222538-87-6 917607-38-6, Copper 97, magnesium
 0.1, nickel 2.3, silicon 0.5 1095901-62-4, Copper 98,
 magnesium 0.1, nickel 1.2, silicon 0.2 1095901-63-5
 (manuf. of high-strength copper alloys for ~~elec~~
 ./electronic parts)

RN 222538-87-6 HCAPLUS

CN Copper alloy, base, Cu 96,Ni 3,Si 0.6,Mg 0.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====	=====	=====
Cu	96	7440-50-8
Ni	3	7440-02-0
Si	0.6	7440-21-3
Mg	0.2	7439-95-4

RN 917607-38-6 HCAPLUS

CN Copper alloy, base, Cu 97,Ni 2.3,Si 0.5,Mg 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====	=====	=====
Cu	97	7440-50-8
Ni	2.3	7440-02-0
Si	0.5	7440-21-3
Mg	0.1	7439-95-4

RN 1095901-62-4 HCAPLUS

CN Copper alloy, base, Cu 98,Ni 1.2,Si 0.2,Mg 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	98	7440-50-8
Ni	1.2	7440-02-0
Si	0.2	7440-21-3
Mg	0.1	7439-95-4

RN 1095901-63-5 HCAPLUS

CN Copper alloy, base, Cu 93-99,Ni 1-4,Ag 0-2,Co 0-2,Cr 0-2,Fe 0-2,Mg 0-2,Mn 0-2,P 0-2,Sn 0-2,Ti 0-2,Zn 0-2,Zr 0-2,Si 0.2-1.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	93 - 99	7440-50-8
Ni	1 - 4	7440-02-0
Ag	0 - 2	7440-22-4
Co	0 - 2	7440-48-4
Cr	0 - 2	7440-47-3
Fe	0 - 2	7439-89-6
Mg	0 - 2	7439-95-4
Mn	0 - 2	7439-96-5
P	0 - 2	7723-14-0
Sn	0 - 2	7440-31-5
Ti	0 - 2	7440-32-6
Zn	0 - 2	7440-66-6
Zr	0 - 2	7440-67-7
Si	0.2 - 1.2	7440-21-3

IPCI C22F0001-08 [I,A]; C22C0009-06 [I,A]; C22C0009-10 [I,A]; C22F0001-00 [N,A]

IPCR C22F0001-08 [I,A]; C22C0009-06 [I,A]; C22C0009-10 [I,A]; C22F0001-00 [N,A]

CC 76-2 (Electric Phenomena)
Section cross-reference(s): 56

ST ~~elec~~ electronic high strength copper alloy; copper alloy ~~hot~~ cold rolling tempering annealing; magnesium nickel silicon copper base alloy ~~elec~~ conductor

IT Rolling (metals)
(hot; manuf. of high-strength copper alloys for ~~elec~~./electronic parts)

IT Annealing
Casting of metals
Cold rolling
Electric apparatus
Electric conductors
Tempering
(manuf. of high-strength copper alloys for ~~elec~~ ./electronic parts)

IT 222538-87-6 917607-38-6, Copper 97, magnesium 0.1, nickel 2.3, silicon 0.5 1095901-62-4, Copper 98, magnesium 0.1, nickel 1.2, silicon 0.2 1095901-63-5

(manuf. of high-strength copper alloys for elec
./electronic parts)

L53 ANSWER 2 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 2008:473601 HCAPLUS Full-text
 DOCUMENT NUMBER: 148:407600
 TITLE: Copper alloy material for ~~electrical~~/electronic
 part and process for producing the same
 INVENTOR(S): Nakano, Junsuke; Kitazato, Keisuke; Hirai, Takao
 PATENT ASSIGNEE(S): The Furukawa Electric Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 17pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008044680	A1	20080417	WO 2007-JP69686	20071009
<--				
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 2008115465	A	20080522	JP 2007-260386	20071003
<--				
EP 2088215	A1	20090812	EP 2007-829424	20071009
<--				
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR				
US 20090229716	A1	20090917	US 2009-421128	20090409
<--				
KR 2009064473	A	20090618	KR 2009-7008901	20090429
<--				
CN 101548025	A	20090930	CN 2007-80044114	20090527
<--				
PRIORITY APPLN. INFO.:			JP 2006-276808	A 20061010
<--				
			JP 2007-260386	A 20071003
<--				
			WO 2007-JP69686	W 20071009
<--				

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
 ED Entered STN: 17 Apr 2008

AB A copper alloy material obtained by finish-rolling a material at a rate of work of 40% or lower, subjecting the finish-rolled material to a ~~heat~~ treatment with a continuous annealing furnace at a temp. of 500-800.degree.C for 1-100 s, and subjecting the ~~heat~~-treated material to a stress relieving treatment at a temp. of 400-600.degree.C for 30-1,000 s. The copper alloy material for ~~elec./~~electronic parts underwent a dimensional change through the stress relieving treatment in the range of -0.02% to +0.02% in each of the directions parallel and perpendicular to the rolling direction.

IT 138599-46-9 222538-87-6 475563-28-1
1016637-49-2 1016637-50-5

(copper alloy material for ~~elec./~~electronic part and process for prodn.)

RN 138599-46-9 HCAPLUS

CN Copper alloy, base, Cu 96,Ni 2.6,Si 0.6,Zn 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	2.6	7440-02-0
Si	0.6	7440-21-3
Zn	0.5	7440-66-6

RN 222538-87-6 HCAPLUS

CN Copper alloy, base, Cu 96,Ni 3,Si 0.6,Mg 0.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3	7440-02-0
Si	0.6	7440-21-3
Mg	0.2	7439-95-4

RN 475563-28-1 HCAPLUS

CN Copper alloy, base, Cu 96,Ni 2.3,Si 0.5,Zn 0.5,Sn 0.2,Mg 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	2.3	7440-02-0
Si	0.5	7440-21-3
Zn	0.5	7440-66-6
Sn	0.2	7440-31-5
Mg	0.1	7439-95-4

RN 1016637-49-2 HCAPLUS

CN Copper alloy, base, Cu 94,Ni 3.7,Si 0.9,Zn 0.5,Cr 0.2,Sn 0.2,Mg 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8

Ni	3.7	7440-02-0
Si	0.9	7440-21-3
Zn	0.5	7440-66-6
Cr	0.2	7440-47-3
Sn	0.2	7440-31-5
Mg	0.1	7439-95-4

RN 1016637-50-5 HCAPLUS

CN Copper alloy, base, Cu 92-98, Ni 1.5-4.5, Si 0.4-1, Zn 0-1, Sn 0-0.5, Cr 0-0.4, Mg 0-0.2, Ag 0-0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	92 - 98	7440-50-8
Ni	1.5 - 4.5	7440-02-0
Si	0.4 - 1	7440-21-3
Zn	0 - 1	7440-66-6
Sn	0 - 0.5	7440-31-5
Cr	0 - 0.4	7440-47-3
Mg	0 - 0.2	7439-95-4
Ag	0 - 0.1	7440-22-4

IPCI C22C0009-06 [I,A]; B21B0001-22 [I,A]; B21B0003-00 [I,A]; C22F0001-08 [I,A]; H01B0001-02 [I,A]; H01B0005-02 [I,A]; H01B0013-00 [I,A]; C22F0001-00 [N,A]

IPCR C22C0009-06 [I,A]; B21B0001-22 [I,A]; B21B0003-00 [I,A]; C22F0001-00 [N,A]; C22F0001-08 [I,A]; H01B0001-02 [I,A]; H01B0005-02 [I,A]; H01B0013-00 [I,A]

CC 56-11 (Nonferrous Metals and Alloys)

ST copper alloy rolling stress relieving annealing elec part

IT Annealing

Electric apparatus

Heat treatment

Rolling (metals)

(copper alloy material for elec./electronic part and process for prodn.)

IT Stress, mechanical

(relieving; copper alloy material for elec./electronic part and process for prodn.)

IT Copper alloy, base

(copper alloy material for elec./electronic part and process for prodn.)

IT 138599-46-9 222538-87-6 475563-28-1

1016637-49-2 1016637-50-5

(copper alloy material for elec./electronic part and process for prodn.)

REFERENCE COUNT:

13

THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L53 ANSWER 3 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2008:319355 HCAPLUS Full-text

DOCUMENT NUMBER: 148:336504

TITLE: Method for manufacturing wire rod, apparatus for manufacturing wire rod, and copper alloy wire

INVENTOR(S): Takahashi, Isao; Kitazato, Keisuke
 PATENT ASSIGNEE(S): The Furukawa Electric Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 55pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2008029855	A1	20080313	WO 2007-JP67335	20070905
<--				
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 2008088549	A	20080417	JP 2007-228218	20070903
<--				
EP 2060651	A1	20090520	EP 2007-806777	20070905
<--				
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, RS				
KR 2009078787	A	20090720	KR 2009-7006845	20070905
<--				
MX 2009002465	A	20090626	MX 2009-2465	20090305
<--				
US 20090229715	A1	20090917	US 2009-398743	20090305
<--				
CN 101535520	A	20090916	CN 2007-80040717	20090430
<--				
PRIORITY APPLN. INFO.:			JP 2006-240150	A 20060905
<--				
			JP 2006-240151	A 20060905
<--				
			JP 2007-228218	A 20070903
<--				
			WO 2007-JP67335	W 20070905
<--				

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 14 Mar 2008

AB This invention provides an app. for manufg. a wire rod, comprising a wire rod feeding device, a wire rod winding device, and a running annealing device provided between the wire rod feeding device and the wire rod winding device, in which an aging pptn.-type copper alloy wire rod is folded back along a passage and is passed. The app. for manufg. a wire rod may further comprises an elec. heating annealing device

for raising the temp. of the aging pptn.-type copper alloy wire rod in tandem on the upstream side of the running annealing device. Another elec. heating device for conducting solid soln. treatment of the aging pptn.-type copper alloy wire rod may be further provided in tandem on the upstream side of the running annealing device. Alternatively, instead of the running annealing device, the elec. heating device may be connected in tandem to constitute a running heating device for aging treatment. The use of these devices can realize the provision of an aging pptn.-type copper alloy wire having a diam. in the range of not less than 0.03 mm and not more than 3 mm.

IT 1010805-96-5

(method for manufg. wire rod, app. for manufg. wire rod, and copper alloy wire)

RN 1010805-96-5 HCAPLUS

CN Copper alloy, base, Cu 94-98, Ni 1.5-4, Si 0.3-1.1, Ag 0-1, Co 0-1, Cr 0-1, Fe 0-1, Mg 0-1, Mn 0-1, P 0-1, Sn 0-1, Zn 0-1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+	=====+	=====+
Cu	94 - 98	7440-50-8
Ni	1.5 - 4	7440-02-0
Si	0.3 - 1.1	7440-21-3
Ag	0 - 1	7440-22-4
Co	0 - 1	7440-48-4
Cr	0 - 1	7440-47-3
Fe	0 - 1	7439-89-6
Mg	0 - 1	7439-95-4
Mn	0 - 1	7439-96-5
P	0 - 1	7723-14-0
Sn	0 - 1	7440-31-5
Zn	0 - 1	7440-66-6

IPCI C22F0001-08 [I,A]; C22C0009-00 [I,A]; C22C0009-06 [I,A]; H01B0013-00 [I,A]; C22F0001-00 [N,A]

IPCR C22F0001-08 [I,A]; C22C0009-00 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [N,A]; H01B0013-00 [I,A]

CC 56-11 (Nonferrous Metals and Alloys)
Section cross-reference(s): 76

IT Aging, materials

Annealing

Electric conductivity

Electric heating

Heat treatment

Precipitation hardening

Tensile strength

Wires

(method for manufg. wire rod, app. for manufg. wire rod, and copper alloy wire)

IT 12639-35-9 12667-72-0 12700-61-7 12782-69-3 12792-77-7
39305-72-1 57919-23-0 67256-86-4 68600-49-7 77088-15-4
82088-17-3 99313-15-2 115180-41-1 115569-51-2 134007-85-5
142567-44-0 153693-94-8 173926-91-5 199127-32-7 245432-47-7
1010805-75-0 1010805-76-1 1010805-77-2 1010805-78-3
1010805-79-4 1010805-80-7 1010805-81-8 1010805-82-9
1010805-83-0 1010805-84-1 1010805-85-2 1010805-86-3
1010805-87-4 1010805-88-5 1010805-89-6 1010805-90-9

1010805-91-0 1010805-92-1 1010805-93-2 1010805-94-3
 1010805-95-4 ~~1010805-96-5~~ 1010805-97-6 1010805-98-7
 1010805-99-8

(method for manufg. wire rod, app. for manufg. wire rod, and copper alloy wire)

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L53 ANSWER 4 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2007:1175830 HCAPLUS Full-text

DOCUMENT NUMBER: 147:473060

TITLE: Composition and manufacture of
 copper-nickel-silicon-zinc alloy for electric and
 electronic parts

INVENTOR(S): Yamagishi, Yoshinori; Gao, Wei Lin; Suda, Hisashi

PATENT ASSIGNEE(S): Dowa Holdings Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 17pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2007270286	A	20071018	JP 2006-98082	20060331

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PRIORITY APPLN. INFO.: JP 2006-98082 20060331

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ED Entered STN: 18 Oct 2007

AB The alloy comprises Ni 0.4-4.5, Si 0.15-0.9, Zn 5-15, H .ltoreq.0.0003, S .ltoreq.0.002%, and Cu bal. with the d. of voids and Ni-Si based ppts. (size .gtoreq.3 .mu.m) being .ltoreq.20/mm2. The alloy may further contain Sn .ltoreq.2, P .ltoreq.0.2, and Fe .ltoreq.1, Mg .ltoreq.0.5, Co .ltoreq.4, Cr .ltoreq.4, and/or B .ltoreq.0.1%. The alloy has a tensile strength of .gtoreq.730 N/mm2 and an elec. cond. of .gtoreq.25%IACS. The alloy is manufd. by melting, casting, hot rolling, cold rolling, soln. heat treating, and aging.

IT 919990-02-6P, Ni 1.3, Si 0.3, Zn 6.6, Cu bal.
 919990-03-7P, Ni 2.2, Si 0.5, Zn 7.2, Cu bal.
 919990-04-8P, Ni 2.2, Si 0.3, Zn 7.7, Sn 0.2, Cu bal.
 919990-05-9P, Ni 3, Si 0.5, Zn 10, Sn 0.3, Cu bal.
 919990-06-0P, Ni 1.9, Si 0.4, Zn 8.6, Sn 0.3, Co 0.4, Cu bal.
 919990-08-2P, Ni 2.1, Si 0.4, Zn 5.4, Sn 0.3, Cu bal.
 952686-86-1P, Ni 2.1, Si 0.4, Zn 5.6, Cu bal.
 952686-87-2P, Ni 2.6, Si 0.5, Zn 7.4, Sn 0.5, Cr 1.4, Cu bal.
 952686-88-3P, Ni 3.2, Si 0.6, Zn 6, Sn 0.4, Cu bal.
 952686-89-4P, Ni 1.7, Si 0.5, Zn 7.1, Sn 0.6, Mg 0.2, Cu bal.
 952686-90-7P, Ni 0.4-4.5, Si 0.2-0.9, Zn 5-15, Sn 0-2, P
 0-0.2, Fe 0-1, Mg 0-0.5, Co 0-4, Cr 0-4, B 0-0.1, Cu bal.

(compn. and manuf. of copper-nickel-silicon-zinc alloy for elec.
 and electronic parts)

RN 919990-02-6 HCAPLUS

CN Copper alloy, base, Cu 92,Zn 6.6,Ni 1.3,Si 0.3 (CA INDEX NAME)

Component Component Component

	Percent	Registry Number
=====+=====+=====		
Cu	92	7440-50-8
Zn	6.6	7440-66-6
Ni	1.3	7440-02-0
Si	0.3	7440-21-3

RN 919990-03-7 HCAPLUS

CN Copper alloy, base, Cu 90,Zn 7.2,Ni 2.2,Si 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Cu	90	7440-50-8
Zn	7.2	7440-66-6
Ni	2.2	7440-02-0
Si	0.5	7440-21-3

RN 919990-04-8 HCAPLUS

CN Copper alloy, base, Cu 90,Zn 7.7,Ni 2.2,Si 0.3,Sn 0.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Cu	90	7440-50-8
Zn	7.7	7440-66-6
Ni	2.2	7440-02-0
Si	0.3	7440-21-3
Sn	0.2	7440-31-5

RN 919990-05-9 HCAPLUS

CN Copper alloy, base, Cu 86,Zn 10,Ni 3,Si 0.5,Sn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Cu	86	7440-50-8
Zn	10	7440-66-6
Ni	3	7440-02-0
Si	0.5	7440-21-3
Sn	0.3	7440-31-5

RN 919990-06-0 HCAPLUS

CN Copper alloy, base, Cu 88,Zn 8.6,Ni 1.9,Co 0.4,Si 0.4,Sn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Cu	88	7440-50-8
Zn	8.6	7440-66-6
Ni	1.9	7440-02-0
Co	0.4	7440-48-4
Si	0.4	7440-21-3
Sn	0.3	7440-31-5

RN 919990-08-2 HCAPLUS

CN Copper alloy, base, Cu 92,Zn 5.4,Ni 2.1,Si 0.4,Sn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	92	7440-50-8
Zn	5.4	7440-66-6
Ni	2.1	7440-02-0
Si	0.4	7440-21-3
Sn	0.3	7440-31-5

RN 952686-86-1 HCAPLUS

CN Copper alloy, base, Cu 92,Zn 5.6,Ni 2.1,Si 0.4 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	92	7440-50-8
Zn	5.6	7440-66-6
Ni	2.1	7440-02-0
Si	0.4	7440-21-3

RN 952686-87-2 HCAPLUS

CN Copper alloy, base, Cu 88,Zn 7.4,Ni 2.6,Cr 1.4,Si 0.5,Sn 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	88	7440-50-8
Zn	7.4	7440-66-6
Ni	2.6	7440-02-0
Cr	1.4	7440-47-3
Si	0.5	7440-21-3
Sn	0.5	7440-31-5

RN 952686-88-3 HCAPLUS

CN Copper alloy, base, Cu 90,Zn 6,Ni 3.2,Si 0.6,Sn 0.4 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	90	7440-50-8
Zn	6	7440-66-6
Ni	3.2	7440-02-0
Si	0.6	7440-21-3
Sn	0.4	7440-31-5

RN 952686-89-4 HCAPLUS

CN Copper alloy, base, Cu 90,Zn 7.1,Ni 1.7,Sn 0.6,Si 0.5,Mg 0.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
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Cu	90	7440-50-8
Zn	7.1	7440-66-6
Ni	1.7	7440-02-0
Sn	0.6	7440-31-5
Si	0.5	7440-21-3
Mg	0.2	7439-95-4

RN 952686-90-7 HCAPLUS

CN Copper alloy, base, Cu 68-94, Zn 5-15, Ni 0.4-4.5, Co 0-4, Cr 0-4, Sn 0-2, Fe 0-1, Si 0.2-0.9, Mg 0-0.5, P 0-0.2, B 0-0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	68 - 94	7440-50-8
Zn	5 - 15	7440-66-6
Ni	0.4 - 4.5	7440-02-0
Co	0 - 4	7440-48-4
Cr	0 - 4	7440-47-3
Sn	0 - 2	7440-31-5
Fe	0 - 1	7439-89-6
Si	0.2 - 0.9	7440-21-3
Mg	0 - 0.5	7439-95-4
P	0 - 0.2	7723-14-0
B	0 - 0.1	7440-42-8

IPCI C22C0009-04 [I,A]; C22F0001-08 [I,A]; C22F0001-00 [N,A]; H01B0001-02 [N,A]

IPCR C22C0009-04 [I,A]; C22F0001-00 [N,A]; C22F0001-08 [I,A]; H01B0001-02 [N,A]

CC 56-3 (Nonferrous Metals and Alloys)

IT Electric apparatus

Semiconductor devices

(compn. and manuf. of copper-nickel-silicon-zinc alloy for elec. and electronic parts)

IT Rolling (metals)

(hot; in manuf. of copper-nickel-silicon-zinc alloy for elec. and electronic parts)

IT Aging, materials

Casting of metals

Cold rolling

Melting

(in manuf. of copper-nickel-silicon-zinc alloy for elec. and electronic parts)

IT Heat treatment

(soln.; in manuf. of copper-nickel-silicon-zinc alloy for elec. and electronic parts)

IT 919990-02-6P, Ni 1.3, Si 0.3, Zn 6.6, Cu bal.

919990-03-7P, Ni 2.2, Si 0.5, Zn 7.2, Cu bal.

919990-04-8P, Ni 2.2, Si 0.3, Zn 7.7, Sn 0.2, Cu bal.

919990-05-9P, Ni 3, Si 0.5, Zn 10, Sn 0.3, Cu bal.

919990-06-0P, Ni 1.9, Si 0.4, Zn 8.6, Sn 0.3, Co 0.4, Cu bal.

919990-08-2P, Ni 2.1, Si 0.4, Zn 5.4, Sn 0.3, Cu bal.

952686-86-1P, Ni 2.1, Si 0.4, Zn 5.6, Cu bal.

952686-87-2P, Ni 2.6, Si 0.5, Zn 7.4, Sn 0.5, Cr 1.4, Cu bal.

952686-88-3P, Ni 3.2, Si 0.6, Zn 6, Sn 0.4, Cu bal.

952686-89-4P, Ni 1.7, Si 0.5, Zn 7.1, Sn 0.6, Mg 0.2, Cu bal.
 952686-90-7P, Ni 0.4-4.5, Si 0.2-0.9, Zn 5-15, Sn 0-2, P
 0-0.2, Fe 0-1, Mg 0-0.5, Co 0-4, Cr 0-4, B 0-0.1, Cu bal.
 (compn. and manuf. of copper-nickel-silicon-zinc alloy for elec.
 and electronic parts)

L53 ANSWER 5 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 2007:378542 HCAPLUS Full-text
 DOCUMENT NUMBER: 146:384702
 TITLE: Backing plate from copper alloy and manufacture
 thereof
 INVENTOR(S): Tung, Chin Pin; Nomoto, Noriyuki; Takada, Akira;
 Ishida, Kazuo; Okano, Masaki; Odakura, Masami;
 Kodaira, Muneo; Nomura, Katsumi
 PATENT ASSIGNEE(S): Hitachi Cable, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 13pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2007084928	A	20070405	JP 2006-227895	20060824

PRIORITY APPLN. INFO.: JP 2005-245317 A 20050826
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ED Entered STN: 05 Apr 2007

AB A backing plate is from a Cu alloy contg. Ni 1.0-5.0 and Si 0.2-1.0%, at Ni/Si 3.5-5.5, and also Zn, Sn, P, Fe, Mg, Cr, Zr, Ti, Mn, and/or Ag 0.01-3.0 wt.%. The max. crystal grain size of the alloy is .ltoreq.0.06 mm. The alloy contains no inclusions with a diam. >0.005 mm and has a thermal cond. of .gtoreq.170 W/m.cntdot.K. The backing plate has a 0.2% yield strength of .gtoreq.600 MPa and a Young's modulus of .gtoreq.125 GPa. The backing plate is manufd. by casting the alloy, holding at .gtoreq.30 min at .gtoreq.800.degree., hot rolling at .gtoreq.50%, soln treating by cooling at .gtoreq.20.degree./min from 600 to 250.degree., and aging by holding for 0.5-12 h at 300-600.degree.. The plate is suitable for cooling target materials in sputtering app. and the like.

IT 931127-06-9

(backing plate from copper alloy and manuf. thereof)

RN 931127-06-9 HCAPLUS

CN Copper alloy, base, Cu 91-99, Ni 1-5, Ag 0-3, Cr 0-3, Fe 0-3, Mg 0-3, Mn 0-3, P 0-3, Sn 0-3, Ti 0-3, Zn 0-3, Zr 0-3, Si 0.2-1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====	=====	=====
Cu	91 - 99	7440-50-8
Ni	1 - 5	7440-02-0
Ag	0 - 3	7440-22-4
Cr	0 - 3	7440-47-3
Fe	0 - 3	7439-89-6
Mg	0 - 3	7439-95-4
Mn	0 - 3	7439-96-5
P	0 - 3	7723-14-0

Sn	0	-	3	7440-31-5
Ti	0	-	3	7440-32-6
Zn	0	-	3	7440-66-6
Zr	0	-	3	7440-67-7
Si	0.2	-	1	7440-21-3

IPCI C22C0009-06 [I,A]; C22F0001-08 [I,A]; B21B0003-00 [I,A]; B21B0001-26 [I,A]; C23C0014-34 [I,A]; C22F0001-00 [N,A]
 IPCR C22C0009-06 [I,A]; B21B0001-26 [I,A]; B21B0003-00 [I,A]; C22F0001-00 [N,A]; C22F0001-08 [I,A]; C23C0014-34 [I,A]
 CC 56-3 (Nonferrous Metals and Alloys)
 IT 931127-01-4 931127-02-5 931127-03-6 931127-04-7 931127-05-8
 931127-06-9
 (backing plate from copper alloy and manuf. thereof)

L53 ANSWER 6 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 2006:1229039 HCAPLUS Full-text
 DOCUMENT NUMBER: 145:509145
 TITLE: Ferritic free-cutting stainless steel for electronic devices
 INVENTOR(S): Ishikawa, Koichi; Shimizu, Tetsuya
 PATENT ASSIGNEE(S): Daido Steel Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2006316310	A	20061124	JP 2005-139309	20050512

PRIORITY APPLN. INFO.: JP 2005-139309 20050512
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ED Entered STN: 24 Nov 2006

AB The steel comprises C 0.005-0.10, Si 0.01-2.0, Mn 0.10-1.5, P 0.010-0.10, S 0.05-0.50, Cu 0.05-2.0, Ni 0.05-2.0, Cr 16.0-25.0, Mo 0.01-4.0, Ti .ltoreq.2.0, O .ltoreq.0.03, N .ltoreq.0.05, Al 0.001-0.100 wt.%, and balance Fe (Mn/S .ltoreq.3.0, Mn/Cr .ltoreq.0.1). The steel is heated at 900-1100.degree. for 0.5-3.0 h and cooled with water, so that sulfides in the steel may contain .gtoreq.5.0 wt.% Cr. Optionally the steel contains Pb, Se, Te, Bi, Ca, Mg, B, rare earth metal, W, V, Nb, and/or Ta. The steel has excellent machinability, corrosion resistance, and outgassing resistance.

IT 915078-66-9 915078-67-0 915078-69-2
 915078-73-8 915078-75-0 915078-76-1
 915078-78-3 915078-81-8 915078-83-0
 915078-85-2 915078-86-3 915078-87-4
 915078-88-5

(ferritic free-cutting stainless steel with high resistance to corrosion and outgassing for electronic devices)

RN 915078-66-9 HCAPLUS

CN Iron alloy, base, Fe 82,Cr 17,Ni 0.3,Mn 0.2,Si 0.2,Cu 0.1,S 0.1 (9CI)
 (CA INDEX NAME)

Component Component Component

	Percent	Registry Number
=====+	=====+	=====
Fe	82	7439-89-6
Cr	17	7440-47-3
Ni	0.3	7440-02-0
Mn	0.2	7439-96-5
Si	0.2	7440-21-3
Cu	0.1	7440-50-8
S	0.1	7704-34-9

RN 915078-67-0 HCAPLUS

CN Iron alloy, base, Fe 83,Cr 16,Si 0.3,Cu 0.2,Mn 0.2,Mo 0.2,Pb 0.2,S 0.2,Ni 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+	=====+	=====
Fe	83	7439-89-6
Cr	16	7440-47-3
Si	0.3	7440-21-3
Cu	0.2	7440-50-8
Mn	0.2	7439-96-5
Mo	0.2	7439-98-7
Pb	0.2	7439-92-1
S	0.2	7704-34-9
Ni	0.1	7440-02-0

RN 915078-69-2 HCAPLUS

CN Iron alloy, base, Fe 79,Cr 19,Cu 0.5,Ti 0.4,Mn 0.3,Mo 0.3,Ni 0.2,Si 0.2,S 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+	=====+	=====
Fe	79	7439-89-6
Cr	19	7440-47-3
Cu	0.5	7440-50-8
Ti	0.4	7440-32-6
Mn	0.3	7439-96-5
Mo	0.3	7439-98-7
Ni	0.2	7440-02-0
Si	0.2	7440-21-3
S	0.1	7704-34-9

RN 915078-73-8 HCAPLUS

CN Iron alloy, base, Fe 81,Cr 18,Ni 0.3,Ti 0.3,Mn 0.2,Si 0.2,Al 0.1,Cu 0.1,S 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+	=====+	=====
Fe	81	7439-89-6
Cr	18	7440-47-3
Ni	0.3	7440-02-0
Ti	0.3	7440-32-6
Mn	0.2	7439-96-5

Si	0.2	7440-21-3
Al	0.1	7429-90-5
Cu	0.1	7440-50-8
S	0.1	7704-34-9

RN 915078-75-0 HCAPLUS

CN Iron alloy, base, Fe 78,Cr 18,Mn 1.4,Ni 0.9,Si 0.6,S 0.5,Ti 0.5,Cu
0.2,Mo 0.2,P 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Fe	78	7439-89-6
Cr	18	7440-47-3
Mn	1.4	7439-96-5
Ni	0.9	7440-02-0
Si	0.6	7440-21-3
S	0.5	7704-34-9
Ti	0.5	7440-32-6
Cu	0.2	7440-50-8
Mo	0.2	7439-98-7
P	0.1	7723-14-0

RN 915078-76-1 HCAPLUS

CN Iron alloy, base, Fe 79,Cr 16,Cu 1.3,Ti 1.2,Mo 0.9,S 0.3,Si 0.3,Ni
0.2,C 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Fe	79	7439-89-6
Cr	16	7440-47-3
Cu	1.3	7440-50-8
Ti	1.2	7440-32-6
Mo	0.9	7439-98-7
S	0.3	7704-34-9
Si	0.3	7440-21-3
Ni	0.2	7440-02-0
C	0.1	7440-44-0

RN 915078-78-3 HCAPLUS

CN Iron alloy, base, Fe 76,Cr 20,Ti 1.1,Cu 0.7,Mo 0.6,Mn 0.5,Ni 0.3,Si
0.3,S 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Fe	76	7439-89-6
Cr	20	7440-47-3
Ti	1.1	7440-32-6
Cu	0.7	7440-50-8
Mo	0.6	7439-98-7
Mn	0.5	7439-96-5
Ni	0.3	7440-02-0
Si	0.3	7440-21-3
S	0.2	7704-34-9

RN 915078-81-8 HCAPLUS
 CN Iron alloy, base, Fe 74,Cr 22,Ni 1.2,Si 1.2,Ti 0.7,Mn 0.5,Cu 0.2,Nb 0.2,S 0.2,Bi 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	74	7439-89-6
Cr	22	7440-47-3
Ni	1.2	7440-02-0
Si	1.2	7440-21-3
Ti	0.7	7440-32-6
Mn	0.5	7439-96-5
Cu	0.2	7440-50-8
Nb	0.2	7440-03-1
S	0.2	7704-34-9
Bi	0.1	7440-69-9

RN 915078-83-0 HCAPLUS
 CN Iron alloy, base, Fe 70,Cr 23,Si 1.8,W 1.6,Mn 0.9,Ni 0.7,Ti 0.7,Mo 0.4,Cu 0.3,S 0.3 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	70	7439-89-6
Cr	23	7440-47-3
Si	1.8	7440-21-3
W	1.6	7440-33-7
Mn	0.9	7439-96-5
Ni	0.7	7440-02-0
Ti	0.7	7440-32-6
Mo	0.4	7439-98-7
Cu	0.3	7440-50-8
S	0.3	7704-34-9

RN 915078-85-2 HCAPLUS
 CN Iron alloy, base, Fe 75,Cr 21,Ti 0.9,Cu 0.7,Mo 0.7,Si 0.6,Ni 0.4,S 0.4,C 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Fe	75	7439-89-6
Cr	21	7440-47-3
Ti	0.9	7440-32-6
Cu	0.7	7440-50-8
Mo	0.7	7439-98-7
Si	0.6	7440-21-3
Ni	0.4	7440-02-0
S	0.4	7704-34-9
C	0.1	7440-44-0

RN 915078-86-3 HCAPLUS
 CN Iron alloy, base, Fe 69,Cr 24,Cu 1.9,Ni 1.9,Ti 1,Mo 0.9,S 0.5,Si

0.3,Mn 0.2,Ta 0.2,C 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Fe	69	7439-89-6
Cr	24	7440-47-3
Cu	1.9	7440-50-8
Ni	1.9	7440-02-0
Ti	1	7440-32-6
Mo	0.9	7439-98-7
S	0.5	7704-34-9
Si	0.3	7440-21-3
Mn	0.2	7439-96-5
Ta	0.2	7440-25-7
C	0.1	7440-44-0

RN 915078-87-4 HCAPLUS

CN Iron alloy, base, Fe 80,Cr 17,Ti 0.7,Ni 0.5,S 0.5,Mn 0.3,Si 0.3,Cu
0.2,Mo 0.2,Pb 0.2,C 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Fe	80	7439-89-6
Cr	17	7440-47-3
Ti	0.7	7440-32-6
Ni	0.5	7440-02-0
S	0.5	7704-34-9
Mn	0.3	7439-96-5
Si	0.3	7440-21-3
Cu	0.2	7440-50-8
Mo	0.2	7439-98-7
Pb	0.2	7439-92-1
C	0.1	7440-44-0

RN 915078-88-5 HCAPLUS

CN Iron alloy, base, Fe 76,Cr 18,Ni 1.7,Si 1.5,Ti 0.7,Mo 0.4,Cu 0.3,Bi
0.2,S 0.2,Al 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Fe	76	7439-89-6
Cr	18	7440-47-3
Ni	1.7	7440-02-0
Si	1.5	7440-21-3
Ti	0.7	7440-32-6
Mo	0.4	7439-98-7
Cu	0.3	7440-50-8
Bi	0.2	7440-69-9
S	0.2	7704-34-9
Al	0.1	7429-90-5
Mn	0.1	7439-96-5

IPCI C22C0038-00 [I,A]; C21D0008-06 [I,A]; C22C0038-60 [I,A]

IPCR C22C0038-00 [I,A]; C21D0008-06 [I,A]; C22C0038-60 [I,A]

CC 55-5 (Ferrous Metals and Alloys)

Section cross-reference(s): 76

IT Annealing

Electric apparatus

(ferritic free-cutting stainless steel with high resistance to corrosion and outgassing for electronic devices)

IT 915078-66-9 915078-67-0 915078-69-2
 915078-71-6 915078-73-8 915078-75-0
 915078-76-1 915078-78-3 915078-81-8
 915078-83-0 915078-85-2 915078-86-3
 915078-87-4 915078-88-5 915078-89-6

(ferritic free-cutting stainless steel with high resistance to corrosion and outgassing for electronic devices)

L53 ANSWER 7 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2006:1091146 HCAPLUS Full-text

DOCUMENT NUMBER: 145:442361

TITLE: Composition and manufacture of Cu-Ni-Si based copper alloy for electronic parts

INVENTOR(S): Era, Naohiko; Fukamachi, Kazuhiko; Kuwagaki, Hiroshi

PATENT ASSIGNEE(S): Nikko Materials Co., Ltd., Japan; JX Nippon Mining & Metals Corp.

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2006283107	A	20061019	JP 2005-104135	20050331
			<--	
JP 4813814	B2	20111109		
PRIORITY APPLN. INFO.:			JP 2005-104135	20050331
			<--	

ED Entered STN: 19 Oct 2006

AB The alloy comprises Ni 1.5-4, Si 0.3-1.2, Mn and/or Mg 0.03-0.5%, and Cu bal. with 4 .ltoreq.(Ni/Si) .ltoreq.5, where the inclusions with size .ltoreq.5 .mu.m are dispersed in the alloy and contain .gtoreq.10% Ni, Si, and O; and the no. ratio of the inclusions with size .gtoreq.1 .mu.mm (Po) to the inclusions with size .gtoreq.0.1 .mu.m (P) is (Po/P) .ltoreq.0.1. The alloy may further contain 0.001-2% P, As, Sb, Be, B, Sn, Ti, Zr, Al, Fe, Zn, and/or Ag. The alloy is manufd. by heating the alloy cast to 900-1000.degree., heat treating, rolling, solid soln. heat treating at 750-1000.degree., and aging at 350-550.degree..

IT 204124-67-4 807367-20-0 807367-24-4
 807367-34-6 807367-74-4 807367-87-9
 807367-90-4 827026-38-0 896731-81-0
 912847-52-0 912847-53-1 912847-54-2
 912847-55-3 912847-56-4 912847-57-5
 912847-58-6 912847-59-7 912847-60-0
 912847-61-1 912847-62-2

(compn. and manuf. of Cu-Ni-Si based copper alloy for electronic parts)

RN 204124-67-4 HCAPLUS

CN Copper alloy, base, Cu 97,Ni 2.5,Si 0.6,Mg 0.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2.5	7440-02-0
Si	0.6	7440-21-3
Mg	0.2	7439-95-4

RN 807367-20-0 HCAPLUS

CN Copper alloy, base, Cu 97,Ni 2.5,Si 0.5,Mg 0.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2.5	7440-02-0
Si	0.5	7440-21-3
Mg	0.2	7439-95-4

RN 807367-24-4 HCAPLUS

CN Copper alloy, base, Cu 96,Ni 2.5,Si 0.5,Zn 0.4,Mg 0.2,Sn 0.2 (9CI)
(CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	2.5	7440-02-0
Si	0.5	7440-21-3
Zn	0.4	7440-66-6
Mg	0.2	7439-95-4
Sn	0.2	7440-31-5

RN 807367-34-6 HCAPLUS

CN Copper alloy, base, Cu 97,Ni 2.5,Si 0.5,Mg 0.2,Mn 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2.5	7440-02-0
Si	0.5	7440-21-3
Mg	0.2	7439-95-4
Mn	0.1	7439-96-5

RN 807367-74-4 HCAPLUS

CN Copper alloy, base, Cu 94,Ni 4.5,Si 1,Mg 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8

Ni	4.5	7440-02-0
Si	1	7440-21-3
Mg	0.2	7439-95-4

RN 807367-87-9 HCAPLUS

CN Copper alloy, base, Cu 94,Ni 4.5,Si 1,Mg 0.2,Mn 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8
Ni	4.5	7440-02-0
Si	1	7440-21-3
Mg	0.2	7439-95-4
Mn	0.1	7439-96-5

RN 807367-90-4 HCAPLUS

CN Copper alloy, base, Cu 94,Ni 4.5,Si 1,Mn 0.3,Mg 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8
Ni	4.5	7440-02-0
Si	1	7440-21-3
Mn	0.3	7439-96-5
Mg	0.2	7439-95-4

RN 827026-38-0 HCAPLUS

CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.8,Mg 0.2,Mn 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.8	7440-21-3
Mg	0.2	7439-95-4
Mn	0.1	7439-96-5

RN 896731-81-0 HCAPLUS

CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.8,Mg 0.2,Mn 0.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.8	7440-21-3
Mg	0.2	7439-95-4
Mn	0.2	7439-96-5

RN 912847-52-0 HCAPLUS

CN Copper alloy, base, Cu 97,Ni 2.5,Si 0.6,Mg 0.2,Mn 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2.5	7440-02-0
Si	0.6	7440-21-3
Mg	0.2	7439-95-4
Mn	0.1	7439-96-5

RN 912847-53-1 HCAPLUS

CN Copper alloy, base, Cu 70-98,Ni 1.5-4,Ag 0-2,Al 0-2,As 0-2,B 0-2,Be 0-2,Fe 0-2,P 0-2,Sb 0-2,Sn 0-2,Ti 0-2,Zn 0-2,Zr 0-2,Si 0.3-1.2,Mg 0-0.5,Mn 0-0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	70 - 98	7440-50-8
Ni	1.5 - 4	7440-02-0
Ag	0 - 2	7440-22-4
Al	0 - 2	7429-90-5
As	0 - 2	7440-38-2
B	0 - 2	7440-42-8
Be	0 - 2	7440-41-7
Fe	0 - 2	7439-89-6
P	0 - 2	7723-14-0
Sb	0 - 2	7440-36-0
Sn	0 - 2	7440-31-5
Ti	0 - 2	7440-32-6
Zn	0 - 2	7440-66-6
Zr	0 - 2	7440-67-7
Si	0.3 - 1.2	7440-21-3
Mg	0 - 0.5	7439-95-4
Mn	0 - 0.5	7439-96-5

RN 912847-54-2 HCAPLUS

CN Copper alloy, base, Cu 96,Ni 2.5,Si 0.6,Mn 0.3,Mg 0.2,Cr 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	2.5	7440-02-0
Si	0.6	7440-21-3
Mn	0.3	7439-96-5
Mg	0.2	7439-95-4
Cr	0.1	7440-47-3

RN 912847-55-3 HCAPLUS

CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.9,Mg 0.2 (CA INDEX NAME)

Component	Component	Component
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	Percent	Registry Number
=====+=====+=====		
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.9	7440-21-3
Mg	0.2	7439-95-4

RN 912847-56-4 HCAPLUS

CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.8,Mg 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.8	7440-21-3
Mg	0.2	7439-95-4

RN 912847-57-5 HCAPLUS

CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.8,Mg 0.2,Zn 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.8	7440-21-3
Mg	0.2	7439-95-4
Zn	0.2	7440-66-6

RN 912847-58-6 HCAPLUS

CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.8,Mn 0.5,Mg 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.8	7440-21-3
Mn	0.5	7439-96-5
Mg	0.2	7439-95-4

RN 912847-59-7 HCAPLUS

CN Copper alloy, base, Cu 94,Ni 4.5,Si 1,Mg 0.2,Zr 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Cu	94	7440-50-8
Ni	4.5	7440-02-0
Si	1	7440-21-3
Mg	0.2	7439-95-4
Zr	0.1	7440-67-7

RN 912847-60-0 HCAPLUS
 CN Copper alloy, base, Cu 94,Ni 4.5,Si 1,Mg 0.2,Cr 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8
Ni	4.5	7440-02-0
Si	1	7440-21-3
Mg	0.2	7439-95-4
Cr	0.1	7440-47-3

RN 912847-61-1 HCAPLUS
 CN Copper alloy, base, Cu 94,Ni 4.5,Si 1,Mg 0.2,Co 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8
Ni	4.5	7440-02-0
Si	1	7440-21-3
Mg	0.2	7439-95-4
Co	0.1	7440-48-4
Mn	0.1	7439-96-5

RN 912847-62-2 HCAPLUS
 CN Copper alloy, base, Cu 94,Ni 4.5,Si 1,Mn 0.3,Al 0.2,Mg 0.2 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	94	7440-50-8
Ni	4.5	7440-02-0
Si	1	7440-21-3
Mn	0.3	7439-96-5
Al	0.2	7429-90-5
Mg	0.2	7439-95-4

IPCI C22C0009-06 [I,A]; C22F0001-08 [I,A]; C22F0001-00 [N,A]; C22C0009-06 [I,A]; C22F0001-08 [I,A]; C22F0001-00 [N,A]

IPCR C22C0009-06 [I,A]; C22F0001-00 [N,A]; C22F0001-08 [I,A]

CC 56-3 (Nonferrous Metals and Alloys)

IT Electric apparatus
 (compn. and manuf. of Cu-Ni-Si based copper alloy for electronic parts)

IT Heat treatment
 Rolling (metals)
 (in manuf. of Cu-Ni-Si based copper alloy for electronic parts)

IT	204124-67-4	807367-20-0	807367-24-4
	807367-34-6	807367-74-4	807367-87-9
	807367-90-4	827026-38-0	896731-81-0
	912847-52-0	912847-53-1	912847-54-2

912847-55-3 912847-56-4 912847-57-5
 912847-58-6 912847-59-7 912847-60-0
 912847-61-1 912847-62-2

(compn. and manuf. of Cu-Ni-Si based copper alloy for electronic parts)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

L53 ANSWER 8 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2006:1091123 HCAPLUS Full-text

DOCUMENT NUMBER: 145:402149

TITLE: High strength nickel-silicon-copper alloy sheets
 with high bending workability and their
 manufacture

INVENTOR(S): Arai, Hiroshi; Yanagawa, Masahiro

PATENT ASSIGNEE(S): Kobe Steel, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2006283059	A	20061019	JP 2005-101226	20050331
			<--	
JP 4566048	B2	20101020		
PRIORITY APPLN. INFO.:			JP 2005-101226	20050331
			<--	

ED Entered STN: 19 Oct 2006

AB The disclosed Cu alloy sheets contain Ni .gtoreq.2.5 and <6.0, Si .gtoreq.0.5 and <1.5 (Ni/Si 4-5), and Sn .gtoreq.0.01 and <4 wt.%, and has toughness .gtoreq.700 N/mm2, cond. .gtoreq.35% IACS, av. crystal grain size .ltoreq.10 .mu.m, and texture with ratio of cube {001}<100> components .gtoreq.50% when measured by SEM-EBSP. The Cu alloy sheets may also contain Zn .gtoreq.0.01 and <3, Mg .gtoreq.0.001 and <1, Mn .gtoreq.0.01 and <0.1, Ag .gtoreq.0.001 and <1, Cr .gtoreq.0.001 and <1, Zr .gtoreq.0.001 and <0.5, Co .gtoreq.0.01 and <0.5, and P .gtoreq.0.01 and <0.1 wt.%. The Cu alloy sheets are manufd. by hot-rolling (if necessary), quickly cooling, cold-rolling, continuous annealing to give a solid soln. recrystn. structure, cold rolling at process rate .ltoreq.20%, aging at 400-600.degree. for 1-8 h, final cold rolling at process rate 1-20%, and annealing at 400-550.degree. for .ltoreq.30 s. The Cu alloy sheets are useful for high-class spring materials for elec. and electronic parts.

IT 911667-71-5

(manuf. of Ni-Si-Cu alloy sheets with high toughness, cond., and bending workability useful for springs for elec. parts)

RN 911667-71-5 HCAPLUS

CN Copper alloy, base, Cu 81-97, Ni 2.5-6, Sn 0-4, Zn 0-3, Si 0.5-1.5, Ag 0-1, Cr 0-1, Mg 0-1, Co 0-0.5, Zr 0-0.5, Mn 0-0.1, P 0-0.1 (9CI) (CA INDEX NAME)

Component	Component	Component
	Percent	Registry Number
=====	=====	=====
Cu	81 - 97	7440-50-8

Ni	2.5	-	6	7440-02-0
Sn	0	-	4	7440-31-5
Zn	0	-	3	7440-66-6
Si	0.5	-	1.5	7440-21-3
Ag	0	-	1	7440-22-4
Cr	0	-	1	7440-47-3
Mg	0	-	1	7439-95-4
Co	0	-	0.5	7440-48-4
Zr	0	-	0.5	7440-67-7
Mn	0	-	0.1	7439-96-5
P	0	-	0.1	7723-14-0

IPCI C22C0009-06 [I,A]; C22C0009-02 [I,A]; C22F0001-08 [I,A]; C22F0001-00 [N,A]; H01B0001-02 [N,A]; C22C0009-06 [I,A]; C22C0009-02 [I,A]; C22C0009-04 [I,A]; C22F0001-08 [I,A]; H01B0001-02 [I,A]; C22F0001-00 [N,A]

IPCR C22C0009-06 [I,A]; C22C0009-02 [I,A]; C22F0001-00 [N,A]; C22F0001-08 [I,A]; H01B0001-02 [N,A]; C22C0009-04 [I,A]

CC 56-11 (Nonferrous Metals and Alloys)
Section cross-reference(s): 76

IT Annealing
Cold rolling

Electric conductors

Springs (mechanical)

(manuf. of Ni-Si-Cu alloy sheets with high toughness, cond., and bending workability useful for springs for elec. parts)

IT 377734-94-6 911667-47-5 911667-55-5 911667-59-9 911667-62-4
911667-71-5

(manuf. of Ni-Si-Cu alloy sheets with high toughness, cond., and bending workability useful for springs for elec. parts)

OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS RECORD (11 CITINGS)

L53 ANSWER 9 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2006:844999 HCAPLUS Full-text

DOCUMENT NUMBER: 145:253477

TITLE: Copper alloy sheet for ~~electric~~ and electronic devices with small anisotropy and its manufacture

INVENTOR(S): Fugono, Akira; Arakawa, Katsuhito

PATENT ASSIGNEE(S): Kobe Steel, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
JP 2006219733	A	20060824	JP 2005-35327	20050214
			<--	
JP 4566020	B2	20101020		
PRIORITY APPLN. INFO.:			JP 2005-35327	20050214
			<--	

ED Entered STN: 24 Aug 2006

AB The Cu alloy comprises 1.5-4.5 wt.% Ni and 0.3-1 wt.% Si, and balance Cu. The Cu alloy sheet is manufd. by hot rolling, cold rolling, soln. annealing to give elec. cond. Y ($X < Y \leq 1.5X$, X: elec. cond. at solid soln. limit) and yield strength ≥ 150 MPa in both rolling direction and vertical direction, finish cold rolling at rolling redn. $\leq 50\%$, and aging annealing. Optionally the Cu alloy contains Sn ≤ 1.5 , Zn ≤ 1.5 , Mg ≤ 0.5 , Mn ≤ 0.5 , and/or Cr ≤ 0.5 wt.%. The soln. annealing process may consist of heating at ≥ 10 degree./s to 700-1000 degree., holding for < 3 s, and cooling at ≥ 30 degree./s. The aging annealing process may be holding the temp. of 350-600 degree. for 1-20 h. The Cu alloy sheet has high strength and elec. cond. and small anisotropy of yield strength and bending workability.

IT 108000-85-7 245432-53-5 438572-90-8
906065-73-4

(manuf. of Cu alloy sheet for elec. and electronic devices with small anisotropy)

RN 108000-85-7 HCAPLUS

CN Copper alloy, base, Cu 96, Ni 3.2, Si 0.7, Zn 0.3 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	96	7440-50-8
Ni	3.2	7440-02-0
Si	0.7	7440-21-3
Zn	0.3	7440-66-6

RN 245432-53-5 HCAPLUS

CN Copper alloy, base, Cu 97, Ni 1.8, Zn 1.1, Si 0.4, Sn 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	1.8	7440-02-0
Zn	1.1	7440-66-6
Si	0.4	7440-21-3
Sn	0.1	7440-31-5

RN 438572-90-8 HCAPLUS

CN Copper alloy, base, Cu 95, Ni 3.2, Zn 1, Si 0.7, Sn 0.5 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.2	7440-02-0
Zn	1	7440-66-6
Si	0.7	7440-21-3
Sn	0.5	7440-31-5

RN 906065-73-4 HCAPLUS

CN Copper alloy, base, Cu 90-94, Ni 1.5-4.5, Sn 1.5, Zn 1.5, Si 0.3-1, Cr 0.5, Mg 0.5, Mn 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
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=====+=====+=====
Cu      90   -   94      7440-50-8
Ni       1.5 -   4.5     7440-02-0
Sn        1.5           7440-31-5
Zn        1.5           7440-66-6
Si       0.3 -   1      7440-21-3
Cr        0.5           7440-47-3
Mg        0.5           7439-95-4
Mn        0.5           7439-96-5

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IPCI C22F0001-08 [I,A]; H01B0001-02 [I,A]; C22C0009-06 [N,A]; C22F0001-00
      [N,A]; C22F0001-08 [I,A]; C22C0009-06 [I,A]; H01B0001-02 [I,A];
      C22F0001-00 [N,A]
IPCR C22F0001-08 [I,A]; C22C0009-06 [N,A]; C22F0001-00 [N,A]; H01B0001-02
      [I,A]
CC    56-5 (Nonferrous Metals and Alloys)
      Section cross-reference(s): 76
ST    copper alloy sheet elec device manuf
IT    Aging, materials
      Cold rolling
      Electric apparatus
      (manuf. of Cu alloy sheet for elec. and electronic
      devices with small anisotropy)
IT    Annealing
      (soln. annealing; manuf. of Cu alloy sheet for elec. and
      electronic devices with small anisotropy)
IT    108000-85-7 115569-53-4 142567-44-0
      245432-53-5 438572-90-8 906065-72-3
      906065-73-4
      (manuf. of Cu alloy sheet for elec. and electronic
      devices with small anisotropy)
OS.CITING REF COUNT:      4      THERE ARE 4 CAPLUS RECORDS THAT CITE THIS
                                RECORD (4 CITINGS)

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L53  ANSWER 10 OF 18  HCAPLUS  COPYRIGHT 2012 ACS on STN
ACCESSION NUMBER:      2006:30431  HCAPLUS  Full-text
DOCUMENT NUMBER:      144:111818
TITLE:      Composition and manufacture of high strength cold
              rolled steel plate for automobiles and electric
              apparatus
INVENTOR(S):      Omosako, Koji; Matsumoto, Takashi
PATENT ASSIGNEE(S):  Nisshin Steel Co., Ltd., Japan
SOURCE:      Jpn. Kokai Tokkyo Koho, 15 pp.
              CODEN: JKXXAF
DOCUMENT TYPE:      Patent
LANGUAGE:      Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

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PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2006009057	A	20060112	JP 2004-184519	20040623
			<--	
PRIORITY APPLN. INFO.:			JP 2004-184519	20040623
			<--	

ED Entered STN: 12 Jan 2006

AB The steel comprises C 0.08-0.18, Si 1-1.8, Mn 2-2.6, P .ltoreq.0.03, S .ltoreq.0.005, Al 0.01-0.1%, Fe bal. with the carbon equiv. Ceq = 0.45-0.7%, where Ceq(%) = C + Si/24 + Mn/6 + Cr/5 + B .times. 5 + V/14 + Mo/4 + Ni/40. The steel may further contain Ni .ltoreq.0.1, Mo .ltoreq.0.3, Cr .ltoreq.0.5, Cu .ltoreq.0.1, V .ltoreq.0.08, B .ltoreq.0.005, Ca .ltoreq.0.005, Ti .ltoreq.0.1, and/or Nb .ltoreq.0.05%. The steel plate is manufd. by hot rolling at .gtoreq.1000.degree., cooling from Ar3 + 50.degree. to .ltoreq.700.degree. to refine the ferrite + pearlite microstructure, pickling, cold rolling, heating at .gtoreq.830.degree. for .gtoreq.60 s, cooling to 600-720.degree. at .ltoreq.10.degree./s to .gtoreq.50% ferrite, cooling at .gtoreq.7.degree./s to T(.degree.C), heating at .gtoreq.(T + 30.degree.) for .gtoreq.3 min, and cooling to room temp., where T(.degree.C) = 248 .times. Ceq + 538.

IT 872462-16-3
(compn. and manuf. of high strength cold rolled steel plate for automobiles and elec. app.)

RN 872462-16-3 HCAPLUS

CN Iron alloy, base, Fe 94-97, Mn 2-2.6, Si 1-1.8, Cr 0-0.5, Mo 0-0.3, C 0.1-0.2, Al 0-0.1, Cu 0-0.1, Ni 0-0.1, Ti 0-0.1, V 0-0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+=====+=====		
Fe	94 - 97	7439-89-6
Mn	2 - 2.6	7439-96-5
Si	1 - 1.8	7440-21-3
Cr	0 - 0.5	7440-47-3
Mo	0 - 0.3	7439-98-7
C	0.1 - 0.2	7440-44-0
Al	0 - 0.1	7429-90-5
Cu	0 - 0.1	7440-50-8
Ni	0 - 0.1	7440-02-0
Ti	0 - 0.1	7440-32-6
V	0 - 0.1	7440-62-2

IPCI C21D0009-46 [I,A]; B21B0001-26 [I,A]; B21B0003-00 [I,A]; B21B0045-08 [I,A]; C22C0038-00 [I,A]; C22C0038-06 [I,A]; C22C0038-58 [I,A]

IPCR C21D0009-46 [I,A]; B21B0001-26 [I,A]; B21B0003-00 [I,A]; B21B0045-08 [I,A]; C22C0038-00 [I,A]; C22C0038-06 [I,A]; C22C0038-58 [I,A]

CC 55-3 (Ferrous Metals and Alloys)

IT Automobiles

Electric apparatus

(compn. and manuf. of high strength cold rolled steel plate for automobiles and elec. app.)

IT Rolling (metals)

(hot; in manuf. of high strength cold rolled steel plate for automobiles and elec. app.)

IT Cold rolling

Heat treatment

(in manuf. of high strength cold rolled steel plate for automobiles and elec. app.)

IT 137412-10-3 144920-07-0, processes 634602-45-2, processes

872462-13-0 872462-14-1 872462-15-2 872462-16-3

(compn. and manuf. of high strength cold rolled steel plate for automobiles and elec. app.)

L53 ANSWER 11 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 2005:1195480 HCAPLUS Full-text
 DOCUMENT NUMBER: 143:471018
 TITLE: High-frequency signal transmission materials and electric terminals
 INVENTOR(S): Era, Naohiko; Fukamachi, Kazuhiko
 PATENT ASSIGNEE(S): Nikko Metal Manufacturing Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2005317463	A	20051110	JP 2004-136648	20040430
			<--	
PRIORITY APPLN. INFO.:			JP 2004-136648	20040430
			<--	

ED Entered STN: 10 Nov 2005

AB The title signal transmission material comprises (1) an alloy material having a correlation $YS.g_{toreq} - 1.25EC + 700$ wherein YS and EC denote 0.2% yield strength and elec. cond., resp. and (2) a Cu plating layer (thickness 1-5.0 μm) plated on the alloy materials. The elec. terminals for signal transmission may be manufd. by plating the alloy material with Cu, cold pressing, annealing, and dieing-out pressing. The arrangement provides the transmission materials and the elec. terminals with high tensile strength and high spring tension.

IT 346441-68-7P, Copper 97, magnesium 0.1, nickel 2.2, silicon 0.5 869086-20-4P, Chromium 0.1, cobalt 0.5, copper 96, magnesium 0.1, nickel 2.2, silicon 0.8 869086-21-5P, Copper 95, magnesium 0.1, nickel 3.8, silicon 0.9 869086-22-6P, Copper 95, magnesium 0.1, manganese 0.1, nickel 3.8, silicon 0.9 869086-23-7P, Copper 95, iron 0.1, magnesium 0.1, nickel 3.8, silicon 0.9 869086-24-8P, Copper 95, magnesium 0.1, nickel 3.8, silicon 0.9, tin 0.5 (copper plated alloy substrate; high-frequency signal transmission materials and elec. terminals)

RN 346441-68-7 HCAPLUS

CN Copper alloy, base, Cu 97,Ni 2.2,Si 0.5,Mg 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+	=====+	=====+
Cu	97	7440-50-8
Ni	2.2	7440-02-0
Si	0.5	7440-21-3
Mg	0.1	7439-95-4

RN 869086-20-4 HCAPLUS

CN Copper alloy, base, Cu 96,Ni 2.2,Si 0.8,Co 0.5,Cr 0.1,Mg 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====+	=====+	=====+

Cu	96	7440-50-8
Ni	2.2	7440-02-0
Si	0.8	7440-21-3
Co	0.5	7440-48-4
Cr	0.1	7440-47-3
Mg	0.1	7439-95-4

RN 869086-21-5 HCAPLUS

CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.9,Mg 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.9	7440-21-3
Mg	0.1	7439-95-4

RN 869086-22-6 HCAPLUS

CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.9,Mg 0.1,Mn 0.1 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.9	7440-21-3
Mg	0.1	7439-95-4
Mn	0.1	7439-96-5

RN 869086-23-7 HCAPLUS

CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.9,Fe 0.1,Mg 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.9	7440-21-3
Fe	0.1	7439-89-6
Mg	0.1	7439-95-4

RN 869086-24-8 HCAPLUS

CN Copper alloy, base, Cu 95,Ni 3.8,Si 0.9,Sn 0.5,Mg 0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	3.8	7440-02-0
Si	0.9	7440-21-3
Sn	0.5	7440-31-5
Mg	0.1	7439-95-4

IPCI H01B0001-02 [ICM,7]; C22C0009-00 [ICS,7]; C22C0009-06 [ICS,7];
 H01B0005-02 [ICS,7]
 IPCR C22C0009-00 [I,A]; C22C0009-06 [I,A]; H01B0001-02 [I,A]; H01B0005-02
 [I,A]
 CC 76-2 (Electric Phenomena)
 Section cross-reference(s): 55, 56
 IT Electric apparatus
 (high-frequency signal transmission components in; high-frequency
 signal transmission materials and elec. terminals)
 IT Annealing
 Surface roughness
 (high-frequency signal transmission materials and elec. terminals)
 IT 8049-16-9P 12244-31-4P, Austenite, properties 12716-98-2P
 12793-09-8P 145604-63-3P, Chromium 0.1, copper 97, titanium 3
 346441-68-7P, Copper 97, magnesium 0.1, nickel 2.2, silicon
 0.5 869086-17-9P, Copper 97, iron 0.2, titanium 3 869086-18-0P,
 Cobalt 0.1, copper 97, titanium 3 869086-19-1P, Copper 97, titanium
 3, vanadium 0.1 869086-20-4P, Chromium 0.1, cobalt 0.5,
 copper 96, magnesium 0.1, nickel 2.2, silicon 0.8
 869086-21-5P, Copper 95, magnesium 0.1, nickel 3.8, silicon
 0.9 869086-22-6P, Copper 95, magnesium 0.1, manganese 0.1,
 nickel 3.8, silicon 0.9 869086-23-7P, Copper 95, iron 0.1,
 magnesium 0.1, nickel 3.8, silicon 0.9 869086-24-8P,
 Copper 95, magnesium 0.1, nickel 3.8, silicon 0.9, tin 0.5
 (copper plated alloy substrate; high-frequency signal transmission
 materials and elec. terminals)
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
 RECORD (1 CITINGS)

L53 ANSWER 12 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 2005:302221 HCAPLUS Full-text
 DOCUMENT NUMBER: 142:377489
 TITLE: Manufacture of high strength high conductivity
 copper alloy plate for electric and electronic
 devices
 INVENTOR(S): Yanagawa, Masahiro; Arai, Hiroshi
 PATENT ASSIGNEE(S): Kobe Steel, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005089843	A	20050407	JP 2003-326452	20030918
			<--	
JP 4664584	B2	20110406		
PRIORITY APPLN. INFO.:			JP 2003-326452	20030918
			<--	

ED Entered STN: 08 Apr 2005

AB The alloy contains Si and 4-5% Ni with the wt. ratio of Ni/Si being 4-5; after
 aging-hardening Ni₂Si ppts. with av. particle size 3-10 nm and av. space .ltoreq.25
 nm are obsd. in the alloy microstructure; and the alloy has a tensile strength of
 .gtoreq.900 MPa and an elec. cond. of .gtoreq.20%IACS. The alloy may further

contain Sn 0.1-4, Zn 0.1-1, Ag 0.001-1, Mn 0.01-0.1, Zr 0.001-0.1, and/or Co 0.01-0.3. The process comprises rolling, heat treating, water cooling, cold rolling, and aging-hardening.

IT 849354-39-8 849354-41-2 849354-42-3
849354-44-5

(manuf. of high strength high cond. copper alloy plate for elec.
and electronic devices)

RN 849354-39-8 HCAPLUS

CN Copper alloy, base, Cu 91,Ni 4,Sn 4,Si 0.9 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	91	7440-50-8
Ni	4	7440-02-0
Sn	4	7440-31-5
Si	0.9	7440-21-3

RN 849354-41-2 HCAPLUS

CN Copper alloy, base, Cu 95,Ni 4,Si 0.9,Zn 0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	4	7440-02-0
Si	0.9	7440-21-3
Zn	0.5	7440-66-6

RN 849354-42-3 HCAPLUS

CN Copper alloy, base, Cu 95,Ni 4,Si 0.9,Ag 0.3 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	95	7440-50-8
Ni	4	7440-02-0
Si	0.9	7440-21-3
Ag	0.3	7440-22-4

RN 849354-44-5 HCAPLUS

CN Copper alloy, base, Cu 87-95,Ni 4-5,Sn 0-4,Si 0.8-1.2,Ag 0-1,Zn 0-1,Co 0-0.3,Mn 0-0.1,Zr 0-0.1 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	87 - 95	7440-50-8
Ni	4 - 5	7440-02-0
Sn	0 - 4	7440-31-5
Si	0.8 - 1.2	7440-21-3
Ag	0 - 1	7440-22-4
Zn	0 - 1	7440-66-6
Co	0 - 0.3	7440-48-4
Mn	0 - 0.1	7439-96-5
Zr	0 - 0.1	7440-67-7

IPCI C22C0009-06 [I,A]; C22C0009-02 [I,A]; C22F0001-08 [I,A]; C22F0001-00 [N,A]
 IPCR C22F0001-08 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [I,A]
 CC 56-3 (Nonferrous Metals and Alloys)
 IT Heat treatment
 Rolling (metals)
 (in manuf. of high strength high cond. copper alloy plate for elec. and electronic devices)
 IT Electric apparatus
 Semiconductor devices
 (manuf. of high strength high cond. copper alloy plate for elec. and electronic devices)
 IT 71282-65-0 173926-91-5 849354-32-1 849354-34-3 849354-36-5
 849354-38-7 849354-39-8 849354-41-2
 849354-42-3 849354-43-4 849354-44-5
 (manuf. of high strength high cond. copper alloy plate for elec. and electronic devices)

L53 ANSWER 13 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN
 ACCESSION NUMBER: 2004:351841 HCAPLUS Full-text
 DOCUMENT NUMBER: 140:361183
 TITLE: Manufacture of Cu-Ni-Si alloy for terminal, connector, relay, or switch of electric devices
 INVENTOR(S): Ishikawa, Yasukiyo
 PATENT ASSIGNEE(S): Nikko Metal Manufacturing Co., Ltd., Japan; Nippon Mining & Metals Co., Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004131829	A	20040430	JP 2002-299676	20021011
			<--	
JP 4386236	B2	20091216		
JP 2009280919	A	20091203	JP 2009-199738	20090831
			<--	

PRIORITY APPLN. INFO.: JP 2002-299676 A3 20021011
 <--

ED Entered STN: 30 Apr 2004

AB The alloy comprises Ni 1-4.5, Si 0.3-1.5%, and Cu bal. The alloy may further contain 0.05-0.3% Mg and 0.05-2% Zn, Sn, Fe, Ti, Zr, Cr, Al, P, Mn, Ag, and/or B. The alloy is manufd. by soln. heat treating, cold rolling, plating with a 0.5-10 .mu.m thick Cu layer, aging at .ltoreq.(2-10) Pa or in atm. (comprising .gtoreq.50 vol.% H and bal. of inert gas) with dew point .ltoreq.-40.degree. at 300-650.degree. for 10 s - 15 h, chem.-mech. polishing to remove Cu plating and surface oxide layer, and annealing at 400-650.degree. in atm. contg. .gtoreq.50 vol.% H and having dew point .ltoreq.-40.degree. for 5 s - 2 min. The 0.2% yield strength of the alloy is .gtoreq.500 MPa with the difference between the yield strength and the spring threshold being .ltoreq.100 MPa; and the oxide film on the alloy is .ltoreq.10 nm thick.

IT 204124-67-4 682813-47-4

(manuf. of Cu-Ni-Si alloy for terminal, connector, relay, or switch
of elec. devices)

RN 204124-67-4 HCAPLUS

CN Copper alloy, base, Cu 97,Ni 2.5,Si 0.6,Mg 0.2 (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	97	7440-50-8
Ni	2.5	7440-02-0
Si	0.6	7440-21-3
Mg	0.2	7439-95-4

RN 682813-47-4 HCAPLUS

CN Copper alloy, base, Cu 72-99,Ni 1-4.5,Ag 0-2,Al 0-2,B 0-2,Cr 0-2,Fe
0-2,Mn 0-2,P 0-2,Sn 0-2,Ti 0-2,Zn 0-2,Zr 0-2,Si 0.3-1.5,Mg 0-0.3 (9CI)
(CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	72 - 99	7440-50-8
Ni	1 - 4.5	7440-02-0
Ag	0 - 2	7440-22-4
Al	0 - 2	7429-90-5
B	0 - 2	7440-42-8
Cr	0 - 2	7440-47-3
Fe	0 - 2	7439-89-6
Mn	0 - 2	7439-96-5
P	0 - 2	7723-14-0
Sn	0 - 2	7440-31-5
Ti	0 - 2	7440-32-6
Zn	0 - 2	7440-66-6
Zr	0 - 2	7440-67-7
Si	0.3 - 1.5	7440-21-3
Mg	0 - 0.3	7439-95-4

IPCI C22C0009-06 [I,A]; C22F0001-02 [I,A]; C22F0001-08 [I,A]; C22F0001-00
[N,A]

IPCR C22F0001-02 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [I,A]; C22F0001-08
[I,A]

CC 56-3 (Nonferrous Metals and Alloys)

Section cross-reference(s): 76

ST copper nickel silicon alloy elec device; rolling plating heat
treating polishing copper nickel silicon alloy

IT Polishing

(chem.-mech.; in manuf. of Cu-Ni-Si alloy for terminal, connector,
relay, or switch of elec. devices)

IT Electric contacts

(connectors; manuf. of Cu-Ni-Si alloy for terminal, connector,
relay, or switch of elec. devices)

IT Aging, materials

Annealing

Cold rolling

(in manuf. of Cu-Ni-Si alloy for terminal, connector, relay, or
switch of elec. devices)

IT Electric apparatus
 Electric switches
 Relays
 (manuf. of Cu-Ni-Si alloy for terminal, connector, relay, or switch of elec. devices)

IT Yield strength
 (of Cu-Ni-Si alloy for terminal, connector, relay, or switch of elec. devices)

IT Coating process
 (plating; in manuf. of Cu-Ni-Si alloy for terminal, connector, relay, or switch of elec. devices)

IT Wettability
 (solder wettability; of Cu-Ni-Si alloy for terminal, connector, relay, or switch of elec. devices)

IT 204124-67-4 682813-47-4
 (manuf. of Cu-Ni-Si alloy for terminal, connector, relay, or switch of elec. devices)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L53 ANSWER 14 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2004:37156 HCAPLUS Full-text

DOCUMENT NUMBER: 140:115371

TITLE: Manufacture of superelastic Cu-Al-Mn alloy foil for strain sensor

INVENTOR(S): Suzuki, Hidekazu; Okamoto, Takayuki; Wakita, Masami; Ishida, Kiyohito; Kainuma, Ryosuke; Sudo, Yuji; Omori, Toshihiro

PATENT ASSIGNEE(S): Chuo Spring Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2004010999	A	20040115	JP 2002-168637	20020610
			<--	
JP 3971961	B2	20070905		
PRIORITY APPLN. INFO.:			JP 2002-168637	20020610
			<--	

ED Entered STN: 16 Jan 2004

AB The elec. resistivity of the alloy is changing linearly with the change of its strain. The alloy comprises Al 3-10, Mn 5-20, Ni, Co, Fe, Ti, V, Cr, Si, Nb, Mo, W, Sn, Sb, Mg, P, Be, Zr, Zn, B, C, Ag, and/or misch metals 0.001-10%, and Cu bal. The alloy foil is 1-200 .mu.m thick and has grain size of 1-30 .times. 103 .mu.m. The alloy foil can be manufd. by melting and rapid solidifying by injecting onto the cooling roller.

IT 647011-98-1
 (manuf. of superelastic Cu-Al-Mn alloy foil for strain sensor)

RN 647011-98-1 HCAPLUS

CN Copper alloy, base, Cu 0-92, Mn 5-20, Al 3-10, Ag 0-10, B 0-10, Be 0-10, C 0-10, Co 0-10, Cr 0-10, Fe 0-10, Mg 0-10, misch metal 0-10, Mo 0-10, Nb 0-10, Ni 0-10, P 0-10, Sb 0-10, Si 0-10, Sn 0-10, Ti 0-10, V 0-10, W 0-10, Zn

0-10,Zr 0-10 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IPCI C22C0009-05 [I,A]; B22D0011-00 [I,A]; B22D0011-06 [I,A]; C22C0009-01 [I,A]; G01B0007-16 [I,A]

IPCR G01B0007-16 [I,A]; B22D0011-00 [I,A]; B22D0011-06 [I,A]; C22C0009-01 [I,A]; C22C0009-05 [I,A]

CC 56-3 (Nonferrous Metals and Alloys)

IT 174792-67-7 647011-98-1

(manuf. of superelastic Cu-Al-Mn alloy foil for strain sensor)

L53 ANSWER 15 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2002:98867 HCAPLUS Full-text

DOCUMENT NUMBER: 136:154668

TITLE: Working and heat treatment of copper alloys for electric contacts and the alloys

INVENTOR(S): Hirai, Takao

PATENT ASSIGNEE(S): Furukawa Electric Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2002038246	A	20020206	JP 2000-220998	20000721
			<--	
JP 4460037	B2	20100512		
PRIORITY APPLN. INFO.:			JP 2000-220998	20000721
			<--	

ED Entered STN: 06 Feb 2002

AB The processes are carried out by (a) working followed by (b) heat treatment, under conditions for controlling the changes in the Vickers hardness to be .ltoreq.10 before and after each of the processes. The claimed Cu alloys contain Sn 0-10, Zn 0-40, Ni 0-10, Fe 0-3, Cr 0-1, Mn 0-1, P 0-0.5, Si 0-1, Mg 0-1, Zr 0-0.5, Ti 0-1, Co 0-1, Ag 0-1, Al 0-5, B 0-0.5, and/or rare earth metals 0-0.5 wt.%. The alloys are used in elec. terminals and switches including springs.

IT 395069-58-6

(working and heat treatment of elec. conductive copper alloys under controlling Vickers hardness, for use as elec. contacts)

RN 395069-58-6 HCAPLUS

CN Copper alloy, base, Cu 24-100, Zn 0-40, Ni 0-10, Sn 0-10, Al 0-5, Fe 0-3, Ag 0-1, Co 0-1, Cr 0-1, Mg 0-1, Mn 0-1, Si 0-1, Ti 0-1, B 0-0.5, P 0-0.5, Zr 0-0.5 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
=====	=====	=====
Cu	24 - 100	7440-50-8
Zn	0 - 40	7440-66-6
Ni	0 - 10	7440-02-0
Sn	0 - 10	7440-31-5
Al	0 - 5	7429-90-5
Fe	0 - 3	7439-89-6

Ag	0	-	1	7440-22-4
Co	0	-	1	7440-48-4
Cr	0	-	1	7440-47-3
Mg	0	-	1	7439-95-4
Mn	0	-	1	7439-96-5
Si	0	-	1	7440-21-3
Ti	0	-	1	7440-32-6
B	0	-	0.5	7440-42-8
P	0	-	0.5	7723-14-0
Zr	0	-	0.5	7440-67-7

IPCI C22F0001-08 [I,A]; C22C0009-02 [I,A]; C22C0009-04 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [N,A]

IPCR C22F0001-08 [I,A]; C22C0009-02 [I,A]; C22C0009-04 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [I,A]

CC 56-5 (Nonferrous Metals and Alloys)

Section cross-reference(s): 76

IT 11101-35-2 12793-09-8 76997-80-3, Corson alloy 395069-57-5,
Copper 97, nickel 1, tin 2 395069-58-6

(working and heat treatment of elec. conductive copper alloys under
controlling Vickers hardness, for use as elec. contacts)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS
RECORD (1 CITINGS)

L53 ANSWER 16 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2001:482062 HCAPLUS Full-text

DOCUMENT NUMBER: 135:64906

TITLE: Copper alloy with superior strength, solderability
and surface characteristics for electronic parts
and its production

INVENTOR(S): Maki, Akio

PATENT ASSIGNEE(S): Nippon Mining + Metals Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 2001181759	A	20010703	JP 1999-358817	19991217
			<--	
JP 4154100	B2	20080924		
TW 224625	B	20041201	TW 2000-126692	20001214
			<--	
CN 1301026	A	20010627	CN 2000-135983	20001215
			<--	
CN 1287392	C	20061129		
PRIORITY APPLN. INFO.:			JP 1999-358817	A 19991217
			<--	

ED Entered STN: 05 Jul 2001

AB The tile Cu alloy contains Ni 1.5-4.0, Si 0.30-1.2, Mg 0.05-0.20, and optionally .gtoreq.1 metals of Zn, Sn, Fe, Ti, Zr, Cr, Al, P, Mn, Ag, and Be 0.2-2.0% in total, but Ni/Si ratio (3-7):1, and Si/Mg ratio .ltoreq.0.8:1. The Cu alloy has an Auger-electron spectral intensity ratio of Mg peak/Si peak of .gtoreq.1.0 on its

surface after final heat treatment under reducing gas or inert gas atm. at 300-600.degree..

IT 346441-72-3

(copper alloy with superior strength, elec. cond., solderability and surface characteristics for electronic parts and its prodn.)

RN 346441-72-3 HCAPLUS

CN Copper alloy, base, Cu 73-98, Ni 1.5-4, Ag 0-2, Al 0-2, Be 0-2, Cr 0-2, Fe 0-2, Mn 0-2, P 0-2, Sn 0-2, Ti 0-2, Zn 0-2, Zr 0-2, Si 0.3-1.2, Mg 0-0.2 (9CI)
(CA INDEX NAME)

Component	Component Percent			Component Registry Number
=====+=====+=====				
Cu	73	-	98	7440-50-8
Ni	1.5	-	4	7440-02-0
Ag	0	-	2	7440-22-4
Al	0	-	2	7429-90-5
Be	0	-	2	7440-41-7
Cr	0	-	2	7440-47-3
Fe	0	-	2	7439-89-6
Mn	0	-	2	7439-96-5
P	0	-	2	7723-14-0
Sn	0	-	2	7440-31-5
Ti	0	-	2	7440-32-6
Zn	0	-	2	7440-66-6
Zr	0	-	2	7440-67-7
Si	0.3	-	1.2	7440-21-3
Mg	0	-	0.2	7439-95-4

IPCI C22C0009-06 [I,A]; C22F0001-08 [I,A]; C22F0001-00 [N,A]

IPCR C22F0001-08 [I,A]; C22C0001-00 [I,A]; C22C0009-00 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [I,A]; H01B0001-02 [I,A]

CC 56-3 (Nonferrous Metals and Alloys)

IT 346441-59-6 346441-60-9 346441-61-0 346441-62-1 346441-63-2
346441-64-3 346441-65-4 346441-66-5 346441-67-6 346441-68-7
346441-69-8 346441-70-1 346441-71-2 ~~346441-72-3~~

(copper alloy with superior strength, elec. cond., solderability and surface characteristics for electronic parts and its prodn.)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L53 ANSWER 17 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 2001:124420 HCAPLUS Full-text

DOCUMENT NUMBER: 134:151141

TITLE: Copper alloy for electronic parts and its production

INVENTOR(S): Maki, Akio

PATENT ASSIGNEE(S): Nikko Kinzoku K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001049369      A      20010220      JP 1999-221987      19990805
                        <--
JP 3383615         B2      20030304
PRIORITY APPLN. INFO.:      JP 1999-221987      19990805
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ED Entered STN: 20 Feb 2001

AB Cast slabs of Cu alloys contg. Ni 1.0-4.8, Si 0.2-1.4, and optionally .gtoreq.1 metals of Mg, Zn, Sn, Fe, Ti, Zr, Cr, Al, P, Mn, Ag, and Be 0.005-2.0% are homogenized at 800-900.degree., hot-rolled at .gtoreq.650.degree., and then aged at 300-650.degree. for 1-10 h to obtain a final strip product having cryst. inclusions (av. size .ltoreq.10 .mu.m, preferably 5-10 .mu.m) at .ltoreq.50 grains/mm2 in its cross-sectional surface along rolling direction. The Cu alloy strips have high tensile strength, elec. cond. and drawability in the prodn. of electronic parts.

IT 323202-28-4

(rolling and ageing treatment in prodn. of high-strength copper alloy strips for electronic parts)

RN 323202-28-4 HCAPLUS

CN Copper alloy, base, Cu 72-99, Ni 1-4.8, Ag 0-2, Al 0-2, Be 0-2, Cr 0-2, Mg 0-2, Mn 0-2, P 0-2, Sn 0-2, Ti 0-2, Zn 0-2, Zr 0-2, Si 0.2-1.4 (9CI) (CA INDEX NAME)

Component	Component Percent	Component Registry Number
Cu	72 - 99	7440-50-8
Ni	1 - 4.8	7440-02-0
Ag	0 - 2	7440-22-4
Al	0 - 2	7429-90-5
Be	0 - 2	7440-41-7
Cr	0 - 2	7440-47-3
Mg	0 - 2	7439-95-4
Mn	0 - 2	7439-96-5
P	0 - 2	7723-14-0
Sn	0 - 2	7440-31-5
Ti	0 - 2	7440-32-6
Zn	0 - 2	7440-66-6
Zr	0 - 2	7440-67-7
Si	0.2 - 1.4	7440-21-3

IPCI C22C0009-06 [ICM,7]; C22F0001-08 [ICS,7]; C22F0001-00 [ICS,7]

IPCR C22F0001-08 [I,A]; C22C0009-06 [I,A]; C22F0001-00 [I,A]

CC 56-11 (Nonferrous Metals and Alloys)

IT Rolling (metals)

(hot; in prodn. of high-strength copper alloy strips for electronic parts)

IT 59535-48-7 105682-95-9 116877-96-4 198898-10-1 198898-14-5
 198898-16-7 198898-19-0 323202-24-0 323202-25-1 323202-26-2
 323202-27-3 323202-28-4

(rolling and ageing treatment in prodn. of high-strength copper alloy strips for electronic parts)

L53 ANSWER 18 OF 18 HCAPLUS COPYRIGHT 2012 ACS on STN

ACCESSION NUMBER: 1997:718216 HCAPLUS Full-text

DOCUMENT NUMBER: 128:38153

ORIGINAL REFERENCE NO.: 128:7431a,7434a

TITLE: Manufacture of metal composites composed of metal matrixes, reinforcing materials, and metal microflakes showing exothermic reactivity with matrix metals

INVENTOR(S): Nakanishi, Harumichi

PATENT ASSIGNEE(S): Daihatsu Motor Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 09287036	A	19971104	JP 1996-98786	19960419

PRIORITY APPLN. INFO.: JP 1996-98786 19960419
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ED Entered STN: 13 Nov 1997

AB In manuf. of the title composites, preforms contg. the reinforcing materials and the metal microflakes are previously formed, and impregnated with molten matrix metals at reduced pressure. The matrix may be Al, and the metal microflakes may be selected from (alloys of) Ni, Fe, Co, Cr, Mn, Cu, Ag, Si, Mg, Al, Zn, Sn, and Ti. The method gives metal composites almost free from micropores and having uniform composite structure.

IT 199792-47-7

(in manuf. of reinforced metal composites using flake metals having exothermic reactivity with matrix metals)

RN 199792-47-7 HCAPLUS

CN Silver alloy, nonbase, Ag,Al,Co,Cr,Cu,Fe,Mg,Mn,Ni,Si,Sn,Ti,Zn (9CI)
(CA INDEX NAME)

Component	Component
	Registry Number

=====+=====

Ag	7440-22-4
Al	7429-90-5
Co	7440-48-4
Cr	7440-47-3
Cu	7440-50-8
Fe	7439-89-6
Mg	7439-95-4
Mn	7439-96-5
Ni	7440-02-0
Si	7440-21-3
Sn	7440-31-5
Ti	7440-32-6
Zn	7440-66-6

IPCI C22C0001-09 [ICM,6]; B22D0019-14 [ICS,6]

IPCR B22D0019-14 [I,A]; C22C0047-00 [I,A]; C22C0047-06 [I,A]; C22C0047-08 [I,A]; C22C0047-10 [I,A]; C22C0049-04 [I,A]; C22C0049-06 [I,A]; C22C0049-14 [I,A]

CC 56-4 (Nonferrous Metals and Alloys)

IT 7440-32-6, Titanium, processes 12137-20-1, Titanium oxide (tio)

12/421,128

199792-47-7

(in manuf. of reinforced metal composites using flake metals having exothermic reactivity with matrix metals)

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(FILE 'HOME' ENTERED AT 13:27:38 ON 23 JAN 2012)

FILE 'HCAPLUS' ENTERED AT 13:27:52 ON 23 JAN 2012

L1 1 SEA SPE=ON ABB=ON PLU=ON US20090229716/PN
SEL RN

FILE 'REGISTRY' ENTERED AT 13:30:02 ON 23 JAN 2012

L2 5 SEA SPE=ON ABB=ON PLU=ON (1016637-49-2/BI OR 1016637-50-
5/BI OR 138599-46-9/BI OR 222538-87-6/BI OR 475563-28-1/BI)
L3 44 SEA SPE=ON ABB=ON PLU=ON (CU(L)NI(L)SI(L)MG(L)SN(L)ZN(L)
AG(L)CR)/ELS
L4 1 SEA SPE=ON ABB=ON PLU=ON L3 AND L2
E NI2SI/MF
L5 2 SEA SPE=ON ABB=ON PLU=ON NI2SI/MF

FILE 'HCAPLUS' ENTERED AT 13:32:17 ON 23 JAN 2012

L6 46 SEA SPE=ON ABB=ON PLU=ON L3
L7 1085 SEA SPE=ON ABB=ON PLU=ON L5
L8 0 SEA SPE=ON ABB=ON PLU=ON L6 AND L7
L9 1 SEA SPE=ON ABB=ON PLU=ON L6 AND L1
E ANNEALING/CT
L10 143853 SEA SPE=ON ABB=ON PLU=ON ANNEALING+PFT,NT/CT
E ROLLING (METALS)/CT
L11 34829 SEA SPE=ON ABB=ON PLU=ON "ROLLING (METALS)"+PFT,NT/CT
L12 12 SEA SPE=ON ABB=ON PLU=ON L6 AND (L10 OR L11)
L13 16 SEA SPE=ON ABB=ON PLU=ON L6 AND (PEP OR PROC)/RL
L14 46 SEA SPE=ON ABB=ON PLU=ON L6 OR (L12 OR L13)
L15 31 SEA SPE=ON ABB=ON PLU=ON L14 AND (1802-2007)/PRY,AY,PY
L16 0 SEA SPE=ON ABB=ON PLU=ON L15 AND NI2SI
L17 0 SEA SPE=ON ABB=ON PLU=ON L15 AND SINI2
L18 31 SEA SPE=ON ABB=ON PLU=ON (L15 OR L16 OR L17)
L19 31 SEA SPE=ON ABB=ON PLU=ON L18 OR L8

FILE 'REGISTRY' ENTERED AT 14:20:28 ON 23 JAN 2012

L20 80304 SEA SPE=ON ABB=ON PLU=ON (CU(L)NI(L)SI)/ELS
L21 63949 SEA SPE=ON ABB=ON PLU=ON L20 AND (MG OR SN OR ZN OR AG
OR CR)/ELS
L22 5 SEA SPE=ON ABB=ON PLU=ON L21 AND L2

FILE 'HCAPLUS' ENTERED AT 14:21:51 ON 23 JAN 2012

L23 109669 SEA SPE=ON ABB=ON PLU=ON L21
L24 44 SEA SPE=ON ABB=ON PLU=ON L23 AND L7
L25 6 SEA SPE=ON ABB=ON PLU=ON L24 AND (L10 OR L11)
L26 31 SEA SPE=ON ABB=ON PLU=ON L24 AND PROC/RL
L27 44 SEA SPE=ON ABB=ON PLU=ON (L24 OR L25 OR L26)
L28 39 SEA SPE=ON ABB=ON PLU=ON L27 AND (1802-2007)/PRY,AY,PY
L29 39 SEA SPE=ON ABB=ON PLU=ON L28 AND ALLOY?/SC,SX
L30 QUE SPE=ON ABB=ON PLU=ON HEAT? OR WARM? OR HOT# OR
CALEFACT? OR TORREFACT? OR PYROL? OR SINTER? OR CALCIN? OR
AUTOCLAV? OR THERMOL? OR THERMAL? OR TEPEFACT? OR PREHEAT?
OR MELT? OR FUSE# OR FUSING# OR FUSION? OR (HIGH## OR
HEIGHTEN? OR RAIS? OR INCREAS? OR ELEVAT?) (2A) (TEMP# OR

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      TEMPERATUR?)
L31      20 SEA SPE=ON ABB=ON PLU=ON L29 AND L30
L32     2500 SEA SPE=ON ABB=ON PLU=ON L23 AND L10
L33     719 SEA SPE=ON ABB=ON PLU=ON L32 AND L11
L34     591 SEA SPE=ON ABB=ON PLU=ON L30 AND L33
L35     530 SEA SPE=ON ABB=ON PLU=ON L34 AND PROC/RL
L36      1 SEA SPE=ON ABB=ON PLU=ON L35 AND L1
      E HEAT TREATMENT/CT
L37     275044 SEA SPE=ON ABB=ON PLU=ON "HEAT TREATMENT"+PFT,NT/CT
L38     530 SEA SPE=ON ABB=ON PLU=ON L35 AND L37
L39     530 SEA SPE=ON ABB=ON PLU=ON L38 AND PEP/RL
L40     62 SEA SPE=ON ABB=ON PLU=ON L39 AND ELECTRIC?
      E ELECTRIC APPARATUS/CT
L41    1607077 SEA SPE=ON ABB=ON PLU=ON "ELECTRIC APPARATUS"+PFT,NT/CT
L42     26 SEA SPE=ON ABB=ON PLU=ON L40 AND L41
      E ELECTRIC APPARATUS/CT
L43    27448 SEA SPE=ON ABB=ON PLU=ON "ELECTRIC APPARATUS"/CT
L44      7 SEA SPE=ON ABB=ON PLU=ON L40 AND L43
L45      7 SEA SPE=ON ABB=ON PLU=ON L39 AND L43
L46    171 SEA SPE=ON ABB=ON PLU=ON L23 AND L43
L47     31 SEA SPE=ON ABB=ON PLU=ON L46 AND L37
L48     24 SEA SPE=ON ABB=ON PLU=ON L47 AND PROC/RL
L49     21 SEA SPE=ON ABB=ON PLU=ON L48 AND (L10 OR L11)
L50     21 SEA SPE=ON ABB=ON PLU=ON (L44 OR L45) OR L49
L51     10 SEA SPE=ON ABB=ON PLU=ON L50 AND (1802-2007)/PRY,AY,PY
L52     11 SEA SPE=ON ABB=ON PLU=ON (L12 OR L13) AND (1802-2007)/PR
      Y,AY,PY
L53     18 SEA SPE=ON ABB=ON PLU=ON L51 OR L52
L54      0 SEA SPE=ON ABB=ON PLU=ON L29 AND L53

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